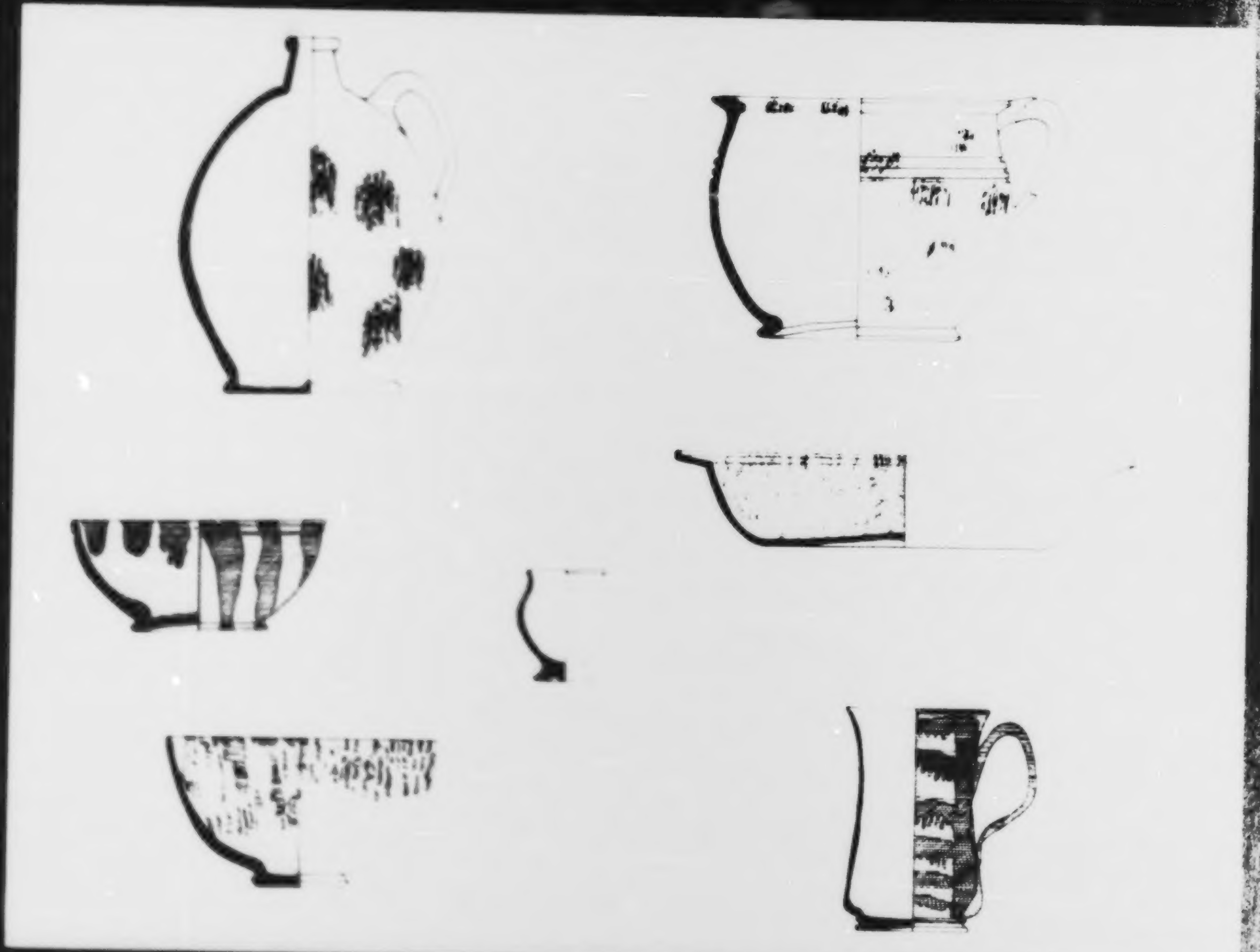
Kenneth James Barton

Coarse earthenwares from the Fortress of Louisbourg

E. Ann Smith

Glassware from a reputed 1745 siege debris context at the Fortress of Louisbourg



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3 COARSE EARTHENWARES FROM THE FORTRESS OF LOUISBOURG

Kenneth James Barton

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E. Ann Smith

National Historic Parks and Sites Branch
Parks Canada
Environment Canada
1981

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COARSE EARTHENWARES FROM THE FORTRESS OF LOUISBOURG

Kenneth James Barton

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ABSTRACT

This paper identifies and attempts to evaluate 39 groups of wares derived from an examination of 58,737 sherds of pottery. These wares were discovered as a result of the extensive excavations that have taken place at Louisbourg in the past 20 years. They comprise coarse earthenwares only - the five wares are the subject of separate attention. These coarse earthenwares include 39 groups, the bulk of which come from France and colonial America. The French wares were probably derived from two sources, the west coast naval base of Rochefort and the south coast port and naval supply base of Marseilles. Both places attracted goods from some distance for northern French material occurs here as do northern Italian wares. The colonial wares are varied and suggest several sources; there are also ephemeral groups of wares from England and the Orient.

Submitted for publication 1978, by Kenneth James Barton, Hampshire County Museum Service, Winchester, England.

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BRIEF HISTORY

(Charles Lindsay: pers. com.)

"The history of the French fortress town of Louisbourg on Cape Breton Island, Nova Scotia, begins with the Treaty of Utrecht in 1713 whereby France lost her colony in Newfoundland and transferred the people of the settlement at Placentia to Ile Royalle (Cape Breton Island) the last substantial possession that France retained along the eastern seaboard.

"It was the intention of the French to establish a large naval, fishing and commercial base on Ile Royalle and to this end the harbour of Louisbourg - ice-free, deep and well-protected was chosen in 1719 to be the site of the largest fortified town along the Atlantic coast.

"Construction of the fortifications was begun in 1720, the aim being to entirely surround the town, located on the western arm of the harbour, with defensive works especially strong along the landward face. These fortifications, though simple by European standards, were a massive undertaking in the colonial wilderness and were regarded with awe by the English colonists to the south. By the mid-1740s Louisbourg had become, in the eyes of these colonists, an almost impregnable base for French pirates and a serious rival to the New England merchants and fishermen.

"Consequently, in 1745 a force of mostly untrained New England soldiers with the aid of the British navy set off to capture Louisbourg. With a mixture of luck and determination born of ignorance, the New Englanders managed to lay siege to and force the capitulation of Louisbourg in just over six weeks. When the New Englanders moved into the town they deported most of the French inhabitants to France and occupied the town for four years.

"Then, in 1749, much to the annoyance of the New Englanders, Louisbourg was returned to the French by one of the clauses of the Treaty of Aix-la-Chapelle concluded the previous year. When the French returned they found that much of the fortifications was still in disrepair from the siege four years earlier. Consequently, they set about rebuilding and strengthening the works - a task that was still not completed by the time of the second siege in 1758. On this occasion a force of British regular troops invested the town, taking advantage of much the same strategic and tactical weaknesses as had the New Englanders, and forced its capitulation after a seven-week siege.

"Once again the French were deported and the English garrison took over. This time, however, the English were determined that Louisbourg would never again be a military threat. So, in 1760, they dug mine galleries throughout the fortifications, filled them with gunpowder and blew the defenses of the town into piles of rubble.

"From 1760 to 1768 a small garrison was quartered in the few habitable houses of the town. When the soldiers were withdrawn all that remained to occupy the once crowded military and commercial town were a few fishermen and farmers. Since the late 18th century the fortress town has remained largely unoccupied and unused."

INTRODUCTION

In 1973 the author was invited to assist in the evaluation of the coarse earthenware collection at the Fortress of Louisbourg National Historic Park, Nova Scotia. This was in conjunction with work already undertaken on material from the 1760 wreck of the French ship, the *Machault*, sunk in the Restigouche River, New Brunswick (Barton 1977), and from Fort Beauséjour, New Brunswick. It soon became apparent that the material, until then unsorted, from the Fortress of Louisburg was of much greater and higher calibre in variety and quality than that met with on any previous occasion and, more importantly, that this vast quantity of material represented the product of the excavation of only a very small portion of the site. The material discussed here is representative of only that portion which had been excavated up to the end of 1972.

The majority of the coarse earthenware sherds could not be identified, as the means of identification was not available. These unidentified sherds were set aside in large drawers held in cupboards; the quantity was known to be considerable, and subsequently discovered to be 58,737, representing possibly 1000 objects or more. As only 16 working days were available to tackle the problem, speed was of the essence, and the system used had to take this into consideration at the same time allowing for a minimum of error. Members of the Artifacts Department came together as a team of four and all available bench space was cleared. The drawers of mixed sherds were carried to a central sorting place and sorted into groups by glaze colour. This provided one large group of green-glazed material and another smaller group of brown-glazed sherds together with small groups where the glaze colours had easily recognisable characteristics, unglazed wares (later added to groups by fabric identification) and exotica.

The two large groups of sherds were then sorted according to the colour, structure and nature of the fabric. The combination of fabric, texture and content and its colour, both inside and outside the sherd, together with the colour of the glaze provide most of the essential clues to the identification of otherwise undecorated sherds. This stage of sorting showed that almost exactly half the sherds came from a specific source and that the next largest group was related to it and later shown to come from the same potting centre. This stage of sorting also threw up minor groups and exotica.

The final operation was to do a comparative sorting based on form and decoration. The shapes of handles, bases, rims, feet, or of vessel types or size were considered. After these three exercises had been completed 176,211 sherds had been handled.

A drawing-board and cartridge paper were required for drawing the material; the pottery was drawn full size in pencil. When examples of a group of pottery were drawn these were put together on one sheet. Each group was given a number beginning with "1", and with the prefix "L" to identify it in the future, as coming from the Fortress of Louisbourg (*See* Appendix for corresponding Parks Canada ware numbers). The groups were thus numbered in sequence according to their arrival at the drawing-board.

When the sorting operation had been completed members of the staff then counted the sherds, and noted the identity and site location for each sherd. This information was processed and is now on the computer. The groups so formed have been stored in the order in which they are presented here in 31 groups. At least two of these groups have a question mark over them, as they lack certain cohesive qualities which would strongly confirm their interrelationship, despite similarities in fabric, form and glaze. These doubts are noted in the text; however, it will not be until the 18th-century wares of southern and western France and northern Italy have been published that a better understanding of the material will be possible. Information is also lacking on the potteries of the New England States certainly flourishing in some numbers in the late 18th century; only Laura Watkin's (1968) notable work can provide some of the answers.

Subsequent to this exercise the author made two trips to Europe to tour the museums of the west of France and along the Mediterranean into northwest Italy. On these trips the firm identification of 90 per cent of the European material was established. The bulk is French with some northern Italian wares, the English material was confined to a few sherds from three sources.

It can be said without doubt that the collections at Louisbourg are at present the best evidences of French coarse earthenware of the mid-18th century not only on the North American continent but also in the whole of France and on the littoral of western Europe, to which these wares were also exported. The same could probably be said for the collections of colonial "redwares." The collections at Louisbourg are of immense importance to the student of coarse earthenwares. It should, with increasing excavation works, become the Mecca of all interested in the development of European Anglo-American, Franco-American, and Hispano-American wares during this period. This statement applies not only to the coarse wares but also to the fine wares, the porcelain, the faience, the delfts, the salt glazes. The quantities and the close dating create a unique collection worthy of wide attention.

THE FRENCH WARES

Not surprisingly, the French products comprise the largest groups of pottery found at this site and amongst these groups is a preponderance of wares from the pottery kilns of the Saintonge, Charente, goods probably shipped either from Port Bertaud, through La Rochelle or the naval base at Rochefort. These very distinctive wares from the southwest of France with their ring and dot decoration and their brilliant green glaze colourings are known to have been exported into Europe principally along the western European littoral and are commonly found in England, the Channel Islands, and at French ports north of Bordeaux and in the Low Countries. Although there is very little published information on these wares, our knowledge of the place of production is sufficient to be able to identify them in most cases.

It is possible by inference and implication to locate most of the rest of the wares from the south of France. Although there are no collections of material of equivalent date, there are extant collections of complete vessels from the mid-19th century there is a quantity of excavated material of 16th- and 17th-century date (but almost nothing of 18th-century date). It is also possible to attribute some of the wares to the south of France by copmparing their decoration and fabric with fragments found in excavations and with an existing plate from Aubagne, although there is no historical record of pottery production there. Other pieces were certainly manufactured at the two important potting centres of Biot and Vallauris, and were shipped to Canada either through the ports of Marseilles or Antibes. In Antibes, fragments of a similar nature can be found.

The products of the north of France are few. There are not in this collection classical examples of 18th-century pottery from Beauvais, the principal potting centre for northeastern France in this period, although some wares have been attributed to Martincamp, Sorrus, in northern France. There are also two or three groups to which no positive identification can be given, but they are considered to be French by their form, their fabric and their treatment which is similar to that found in other vessels. Type L12, a slip-decorated green and black ware with red dots, whirls, and key patterns, comprises a major part of the ceramic cargo of the *Machault*, and therefore could be of French origin.

Finally, there is a group of Italian wares now known to come from Albisola, Liguria; these are a very common ware in the south of France, so common, in fact, as to be considered important locally. They are a large group indicating that they were sufficiently common to be sent from the French ports in some quantity.

Cognisance should also be taken of the fact that the French settlers were producing their own pottery in the valley of the St. Lawrence River north of Quebec. This Franco-American ware very closely copies that of the southwestern style of vessel. It is a red earthenware with a dark, copper-green glaze and examples of it were exhibited at a seminar held in Louisbourg in September 1972 by Paul-Louis Martin, who is responsible for research work in the history of this ceramic development. He has shown without doubt that potters were specially recruited to do this work and that one potter came from the Saintonge itself. Just where these wares fit into the pattern of ceramic usage in the settlements at the mouth of the St. Lawrence River is not clear and it is probable that the ware never travelled far, but is a point which should not be neglected in considering what is and is not French in this particular context.

Southwestern French Wares

L1 Saintonge Slipwares (Figs. 1-6)

All the wares in this group can be paralleled by the finds in the waste heaps, gardens and fields in the village of La Chappelle des Pots, near Saintes, Charente Maritime, France (David and Gabet 1972). Such wares are thought to have been shipped downstream to La Rochelle and Port Bertaud (Chapelot 1972). The fabric is a fine rich pink colour with small ochrous pebbles included in the fabric which is very smooth to the touch. The vessels are wheel-thrown, very coarsely treated and not very well thrown. They are fettled at the base, knife cut from the wheel and then trimmed. The inside of the bases of the wares are usually smooth, but some of them are markedly rilled. They are decorated by washing in a thick white slip over the inside, over which a copper-stained lead glaze is applied. They are always fired on the side and always in an oxydising atmosphere. The most distinct examples are the wares decorated with dots. These wares were widely exported and are found in England, though no research on the English ones has yet been published. Southampton and Plymouth have examples and these wares are common in Jersey, Channel Islands. On the North American continent they appear in collections from Jamaica (Mayes 1972: 22) and from Fort Michilimackinac (Miller and Stone 1966: 28a). They also occur at Fort Beauséjour and in the wreck of the *Machault* (cf. Barton 1977). This is the largest group of wares found at Louisbourg. It is associated with L2, also a product of the same village.

Ring and dot slip Decorated Wares (Figs. 1 & 2, Nos. 1-22) - The fabric, the form and the trimming, slipping, glazing and handling, firmly place this ware into one group. The decoration is basically a ring with dots inside and/or around it. The ring can be circular, oval or diamond-shaped and may vary in radius from 1-1/2 cm to 4 cm. The dots vary little in size. They are all applied free-hand. The colour range is principally red, but can be brownish on either a yellow or green ground; there is also a red slip ground which sometimes fires to a chocolate colour with green dots on it. The colander, No. 14 has this peculiar chocolate colour; it is probable that brown was the desired colour, as seen in another example. The two othe types, L4 and L12, which also have ring and dot decorations, come from different sources of manufacture.

A few examples of "tree" or "moss" decoration (Nos. 17 to 20) were probably made by trailing a thin dark slip on a wet and thicker white slipped surface, combing the pattern and, finally, joggling it. The internal central decoration appears always to be a tree (No. 20). There may also be either combing or "comb-brush" application (No. 21). The decoration is normally red on yellow, although black on yellow and white on red also occur. The latter decorations are, however, less common. There are also much less commonly trailed-slip scrolls as in No. 22.

Other decorative forms exist mostly on the coarser wares.

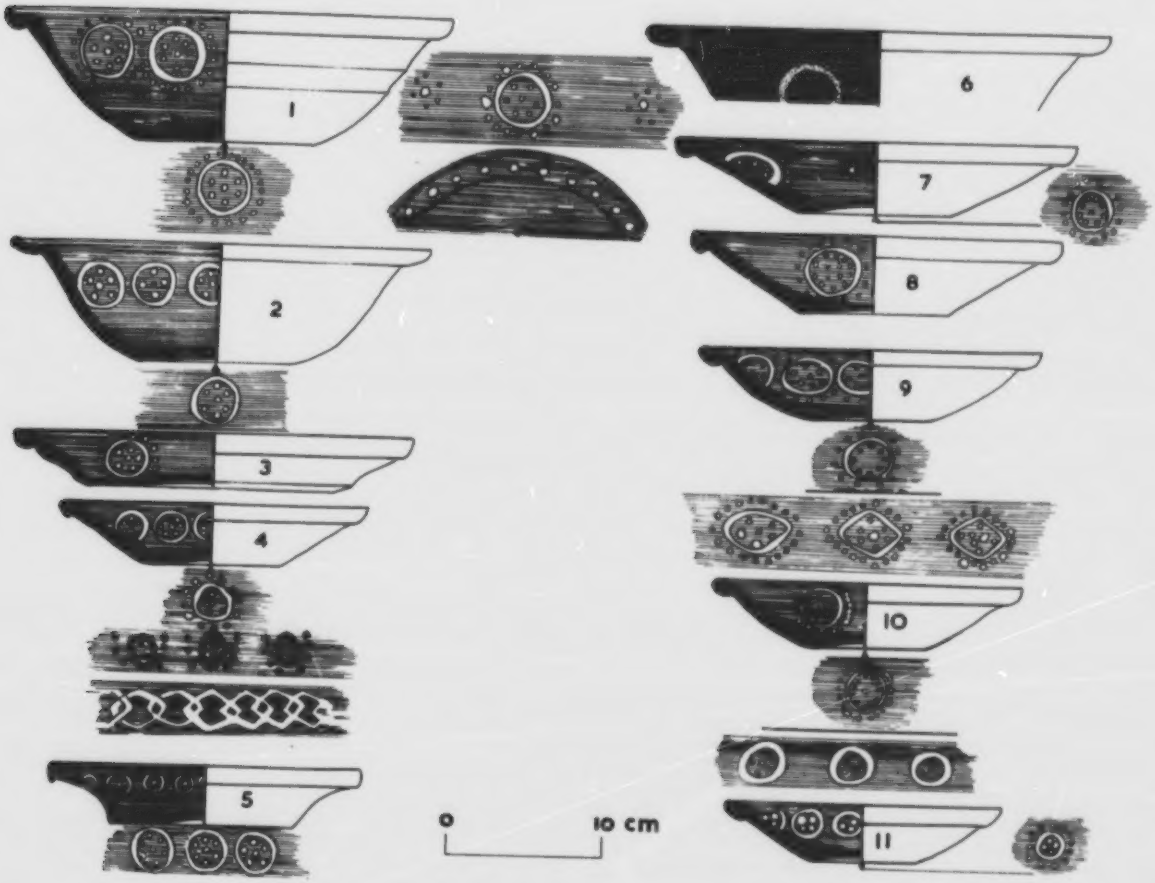

Figure 1

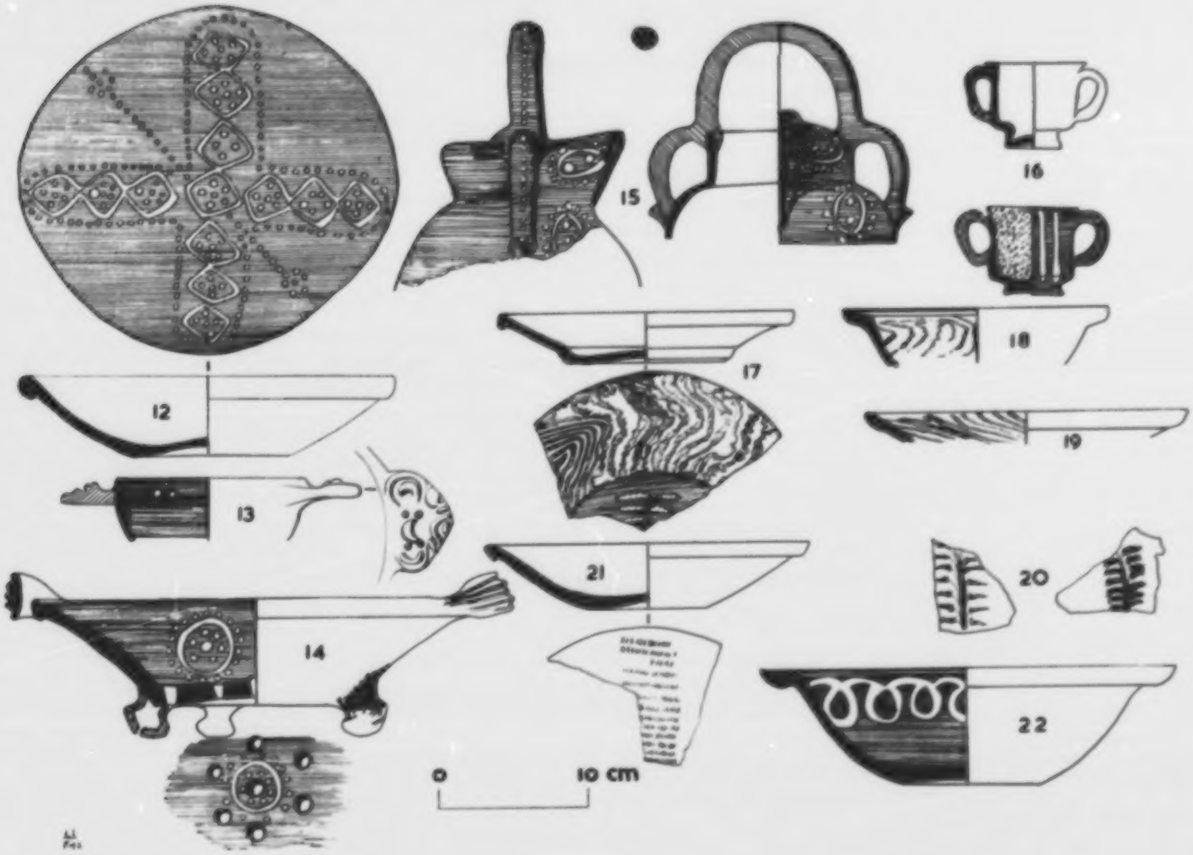

Figure 2

Figures 3 and 4 (Nos. 23-40) - the principal forms of vessels of the type shown above with one exception, No. 25, a porringer with the stub of what may have been a strap handle. The bowl, jar and porringer Nos. 23 to 25 are yellow-glazed over white with slip which has pale green patches of slip added. No. 26 which has a green slip wash has also a black slip added. This black iron-enriched slip is used for decoration on Nos. 27 and 28. The basic colour of the glaze in each case is yellow caused by an oxydised firing of impure lead onto an iron-free slip on a relatively iron-free body - the commonest combination being the base yellow colour on black. The pprringers and bowls Nos. 29 to 31 are green- or yellow-glazed and have been dusted or sprinkled at random with an iron-rich powder which has given a speckled, streaky black colouration.

Jars (No. 32) - The only evidence for this form of vessel within this group is that illustrated here. It is decorated outside with rouletted applied strips of body colour. Such strips are a long-standing traditional form of decoration on Saintonge wares.

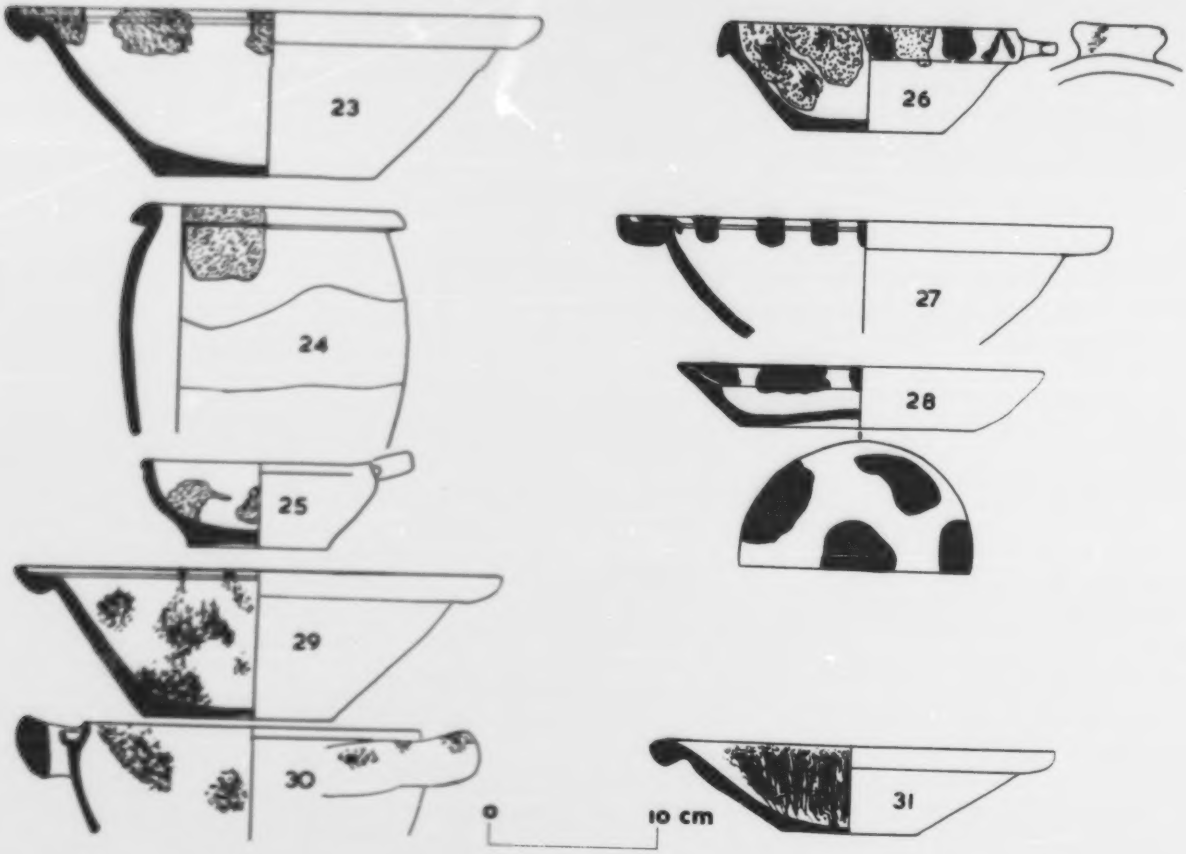

Figure 3

Double-Handled Jugs (No. 33) - They have two strap handles and a pulled spout. The vessel is glazed internally only.

Drug Jar and Jugs (Fig. 4, Nos. 34-40) - These upside-down vessels are decorated by dipping them firstly into a solution of white slip then secondly into a copper rich glaze mixture. This last dipping often only covers a part of the slipped area. In a few instances an unaltered lead glaze is used which results in a yellow colour.

The handled pots Nos. 37-39 illustrate a common form of which No. 39 is the commonest. These vessels have rod handles decorated with grooves.

Plain Green-Glazed Wares (Figs. 5 & 6, Nos. 41-61) - Plain green-glazed wares occur commonly in this group. Some of these wares are similar in form to those in group L2 and in some instances they look very much alike. Both groups originate in the same village.

Bowls (Nos. 41-44) - A large number of bowls occur in which there are three principal sizes, as measured by the radii (No. 42) 11.5

cm, (No. 43) 14.5 cm, (No. 44) 18 cm. The commonest size was 14.5 cm and the least common 11.5 cm. A few fragments of the smallest bowls occur of which only one was suitable for illustration (No. 41); these vary slightly in their rim form but the basis of the variation is that on the larger bowls. Club-sectioned rimmed bowls, Nos. 45-46, a frequent type, occur in two sizes of 8.5 cm and 11.5 cm radius.

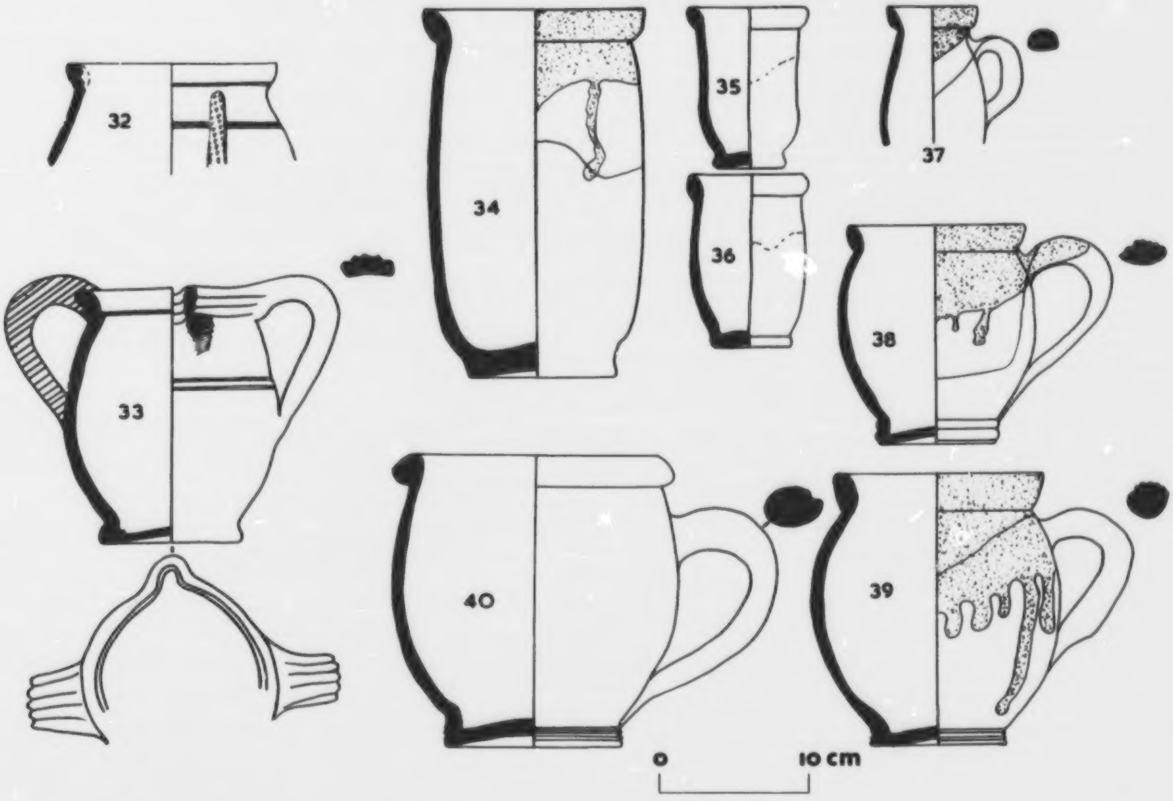

Figure 4

Dishes (Fig. 5, Nos. 47-49) - a large group of shallow vessels of three separate sizes in the following radii - 9 cm, 11.5 cm and 14 cm. One (No. 49) has been adopted as a colander by piercing large square holes in the base of the dish. This vessel is also heavily ribbed on the outside as is also No. 51.

D Section-Rimmed Bowls (Fig. 5, Nos. 50-51) - two sizes of bowl in the radii of 11.5 cm and 9 cm. There are fragments of two horizontal handles which might come from either bowls or small jars of this type.

Plates (Fig. 5, Nos. 52-54) - principally green in colour but some are yellow on the inner surface. These plates are relatively few in number and they vary in form although No. 53 is the most common type.

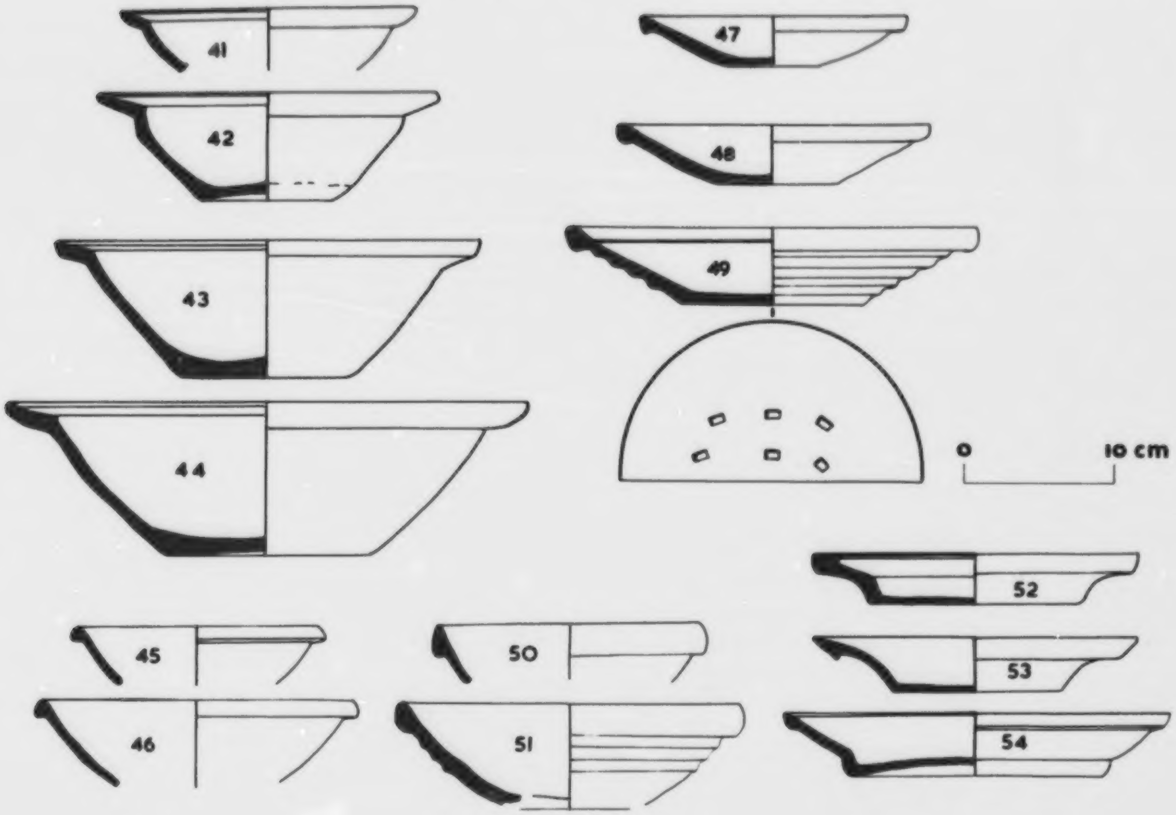

Figure 5

These are very badly thrown, crude and poorly finished (plate-throwing is a very particular skill not achieved by all potters). There were three fragments of rimless platters or bowls which were too fragmentary to draw.

Jugs (Fig. 6, Nos. 55, 56) - fragments from the hand of one jug and the neck of another decorated with horizontal groove.
The green glaze, outside only, over a white slip is carried down to the shoulder.

Spouted Costrel (No. 57) - fragments of the handles, spout, and neck of a green-glazed costrel. The fragmentary remains of this vessel make accurate reconstruction difficult.

Skillet (No. 58) - Has a bright yellow glaze which gives it a distinct and almost unique quality, but the vessel cannot be readily placed in any other group.

Porringers (Nos. 59, 60) - three porringer lug handles not matched here or elsewhere. The fabric is similar in each case and they are placed in this group on this premise only. No. 59 is yellow and No.

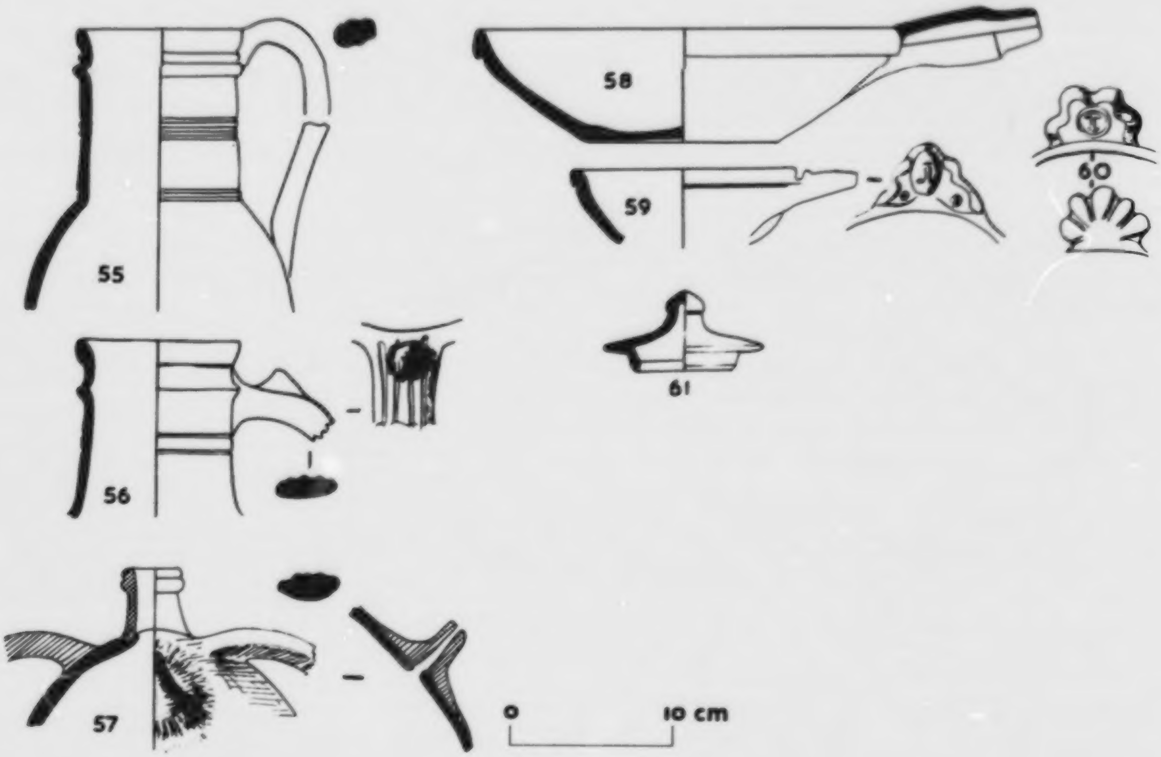

Figure 6

60 is green. The handle of No. 59 is decorated by press-moulding, on which there appears to be a mutilated cherub similar to the "ring and dot" porringer No. 13. The pattern on No. 60 shown as an anchor is also badly damaged.

Lids (No. 61) - There were 18 examples of this kind of lid.

L2 Saintonge Green-Glazed White-Fabric Ware (Figs. 7-10)

This type constitutes one of the largest portions of the whole collection. This we know to be a type current as late as A.D. 1760 for it is the principal type found in the holds of the shipwreck of the *Machault* which was sunk in 1760 (Barton 1977); it is a type of ware readily recognisable amongst the sherds found in quantity in the waste heaps in the village of La Chappelle-des-Pots. This, together with type L1, is the principal form of vessel produced in that village during the 18th century. The fabric is creamy buff to pale pink in colour but generally of a chalky white colour. The texture is equally chalky and smooth. The fabric has no deliberate inclusions, but can have small red ochrous pebbles or occasionally a marked admixture of red clay. The glaze is always a rich and markedly dark green colour. As stated above, the variety is similar to that found in the *Machault*, but less common in quantity.

Figure 7 (No. 1) - a large jug with a damaged spout, glazed three-quarters of the way down outside. It has at the front a horizontal looped handle fastened with seven deep indentations and a large solid square-sectioned handle, the base of which is also fastened with indentations. The size of this piece is unusually large when compared with the other wares in this group, but it has the same form, footring, handle profile and section, and therefore must belong to this particular group.

Figure 7 (No. 2) - a jug of known standard type for this ware. It is glazed all over.

Figure 8 (Nos. 3, 4) - chafing dishes. Fragments of two examples, one of which is pierced around the sides and in the base and at the hollow stem has traces of handles which may be of a strap-type as in No. 4. This is a very badly burned example, the burning having taken place inside the vessel. The external fittings of this piece are missing but there is evidence through the scars of handles looping down towards the base. Both these pieces are very fragmentary and these illustrations are suggested reconstructions.

Figure 8 (No. 5) - lidded, three-footed cooking pot with two horizontal handles, the legs are made from one looped piece. Such vessels can be seen in the *Machault* and Beauséjour collections. The lid is thrown as a small bowl with a pulled strap handle applied to its base; in this instance the handle is missing. It has been designed to fit into a flanged recess around the shoulder of the vessel. These vessels are thought to have had a special culinary purpose.

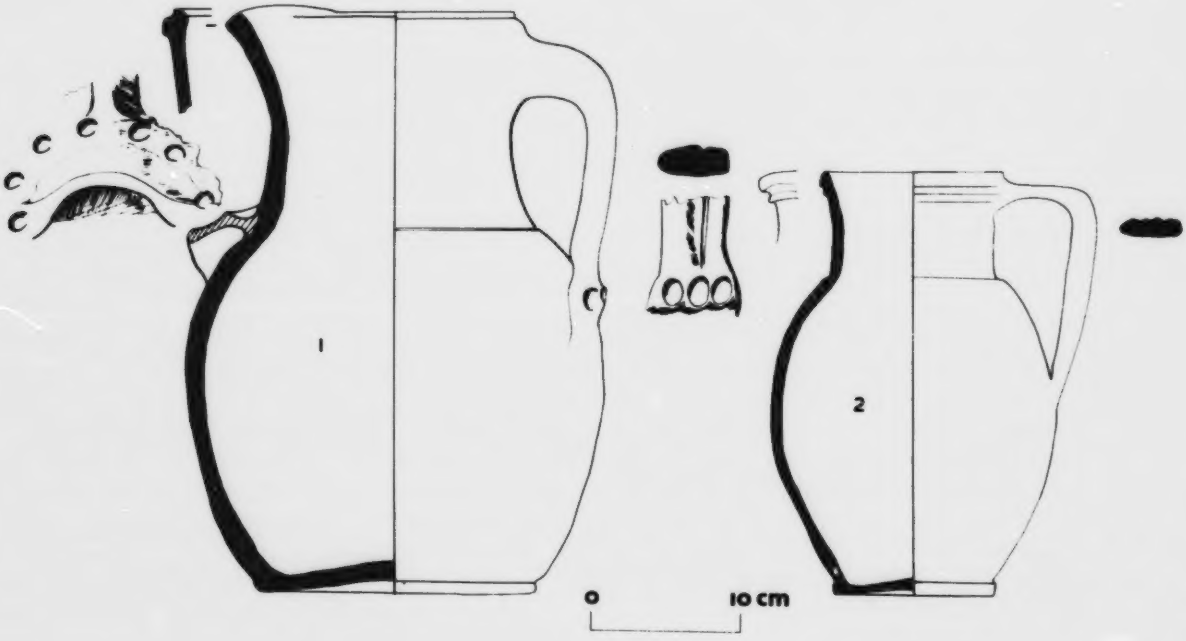

Figure 7

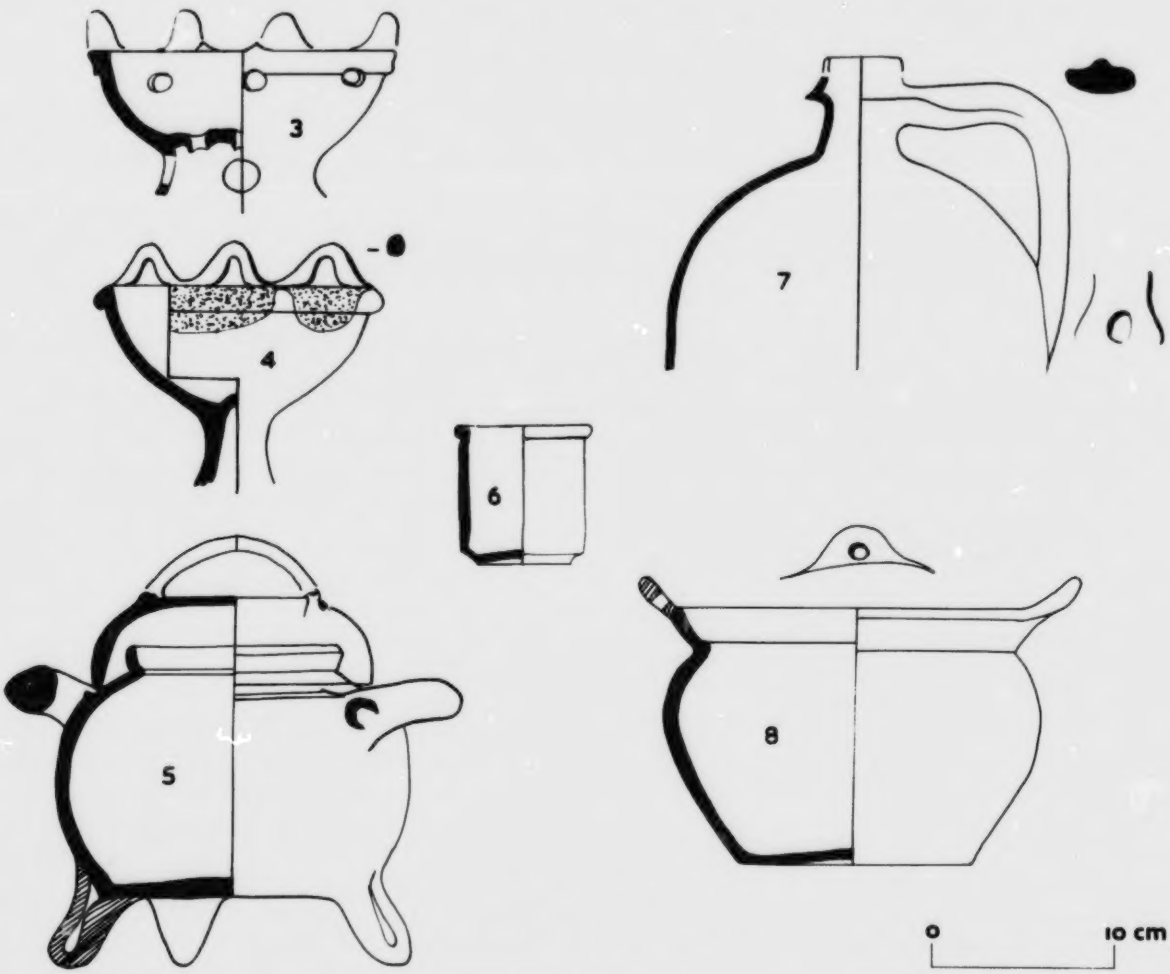

Figure 8

Figure 8 (No. 6) - small straight-sided ointment or drug jar of which there are four similar fragments.

Figure 8 (No. 7) - harvest bottle, of a type very common to the southwest of France. The writer has an identical one in his possession purchased as an antique in Saintes in 1972.

Figure 8 (No. 8) - a flanged cooking pot, the flanges probably for suspension of the pot over the fire. These are set on the edge of the rim and pierced through.

Figure 9 (Nos. 9-14) - a series of bowls of varying forms, nearly all of which range in size from 20 cm to 30 cm. Nos. 13 and 14 are similar to the examples found in the *Machault* wreck (1760). No. 9 was cracked and has been repaired by drilling each side of the crack for binding.

Figure 9 (No. 15) - storage jar with a simple everted rim.

Figure 9 (No. 16) - a porringer with plain handles.

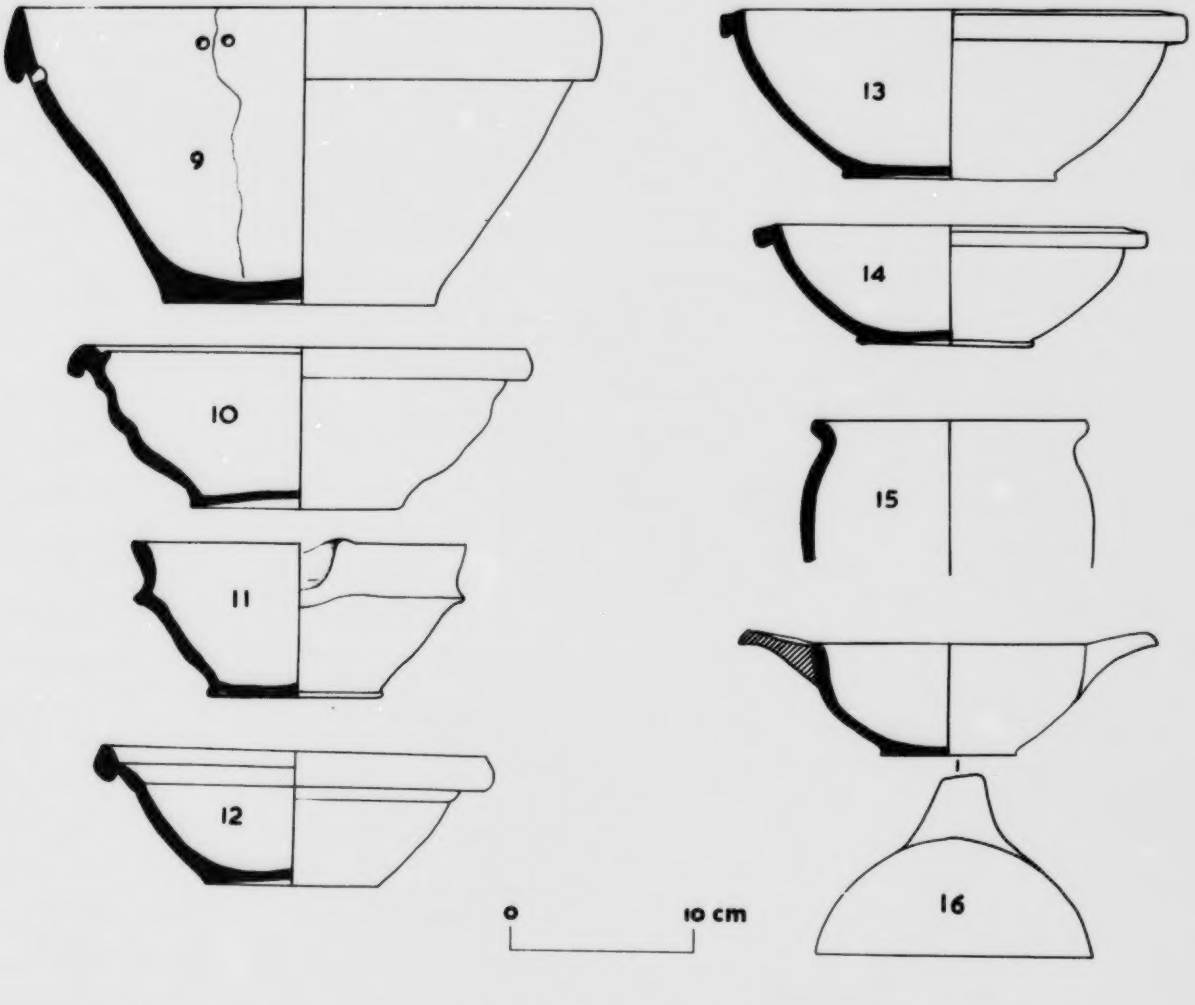

Figure 9

Figure 10 (Nos. 17, 18) - large horizontal-handled cream separators with a marked ledge around the inside of the rim. This ledge is thought to enable the regulated movement of the skimmer. The two handles are very large and heavy and set at right angles vertically to the upper surface of the rim onto which they are built. These two examples are reconstructions from fragments.

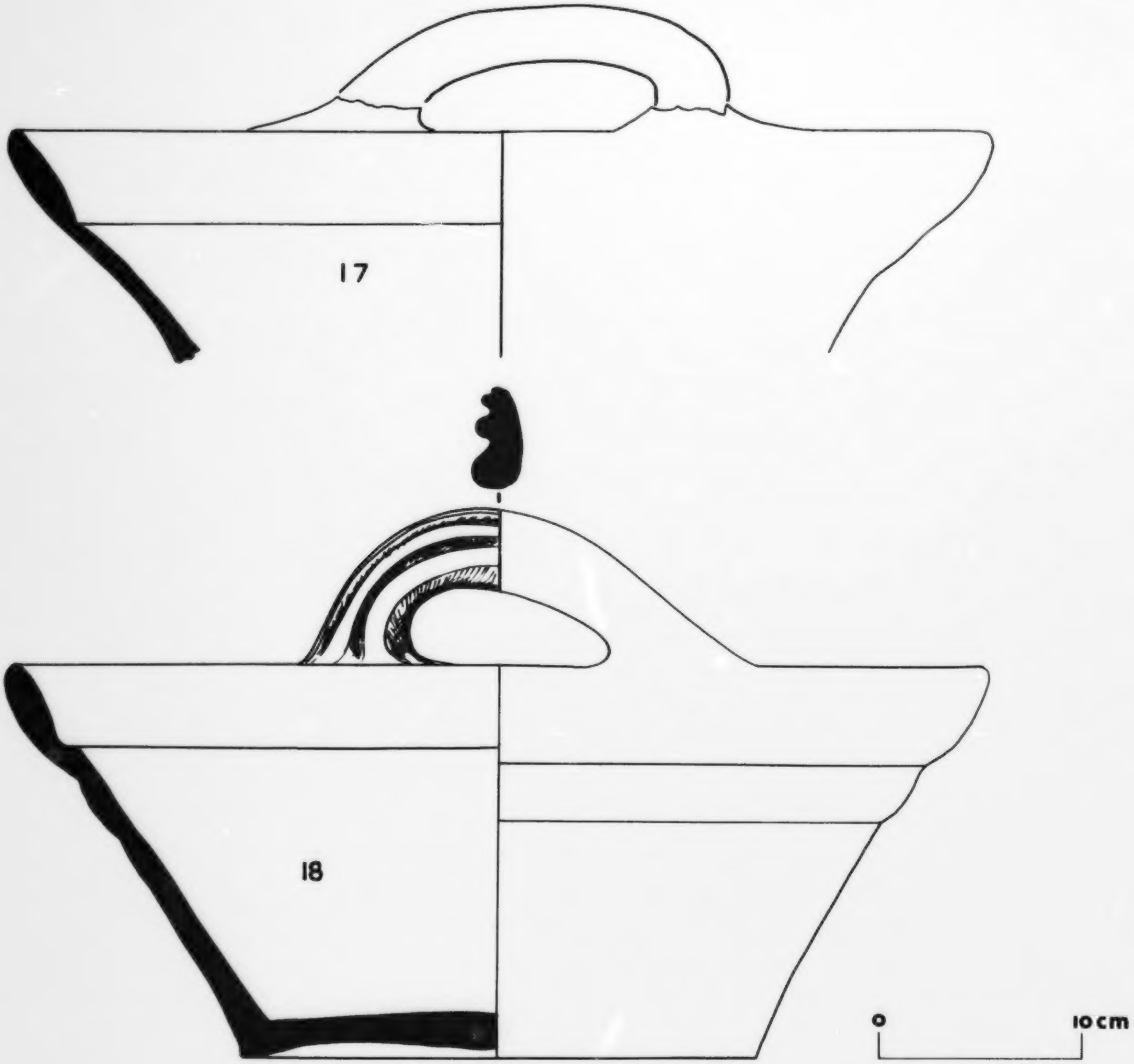

Figure 10

Possible Southwestern French Wares

L3 Double-Handled Cooking Pots (Figs. 11, 12)

It is thought that these types may orginate in the southwest of France, where they were found at Port Bertaud, Charente (Chapelot 1972). Their form is similar to vessels from Louisbourg, the fabric and associated material of which are not yet fully understood and still require geographic placement. Within this particular group there are also some problems of identity. However, the examples shown here are all in the same fabric and, therefore, thought to be from the same source. Those most alike are Nos. 1 and 2, Figure 11 and the lids Nos. 3 and 4, Figure 11, while Nos. 5 and 6, Figure 12 are less similar. These are all in a fine smooth fabric which can range in colour from buff-coloured to salmon pink. They have a fine red, almost orange-coloured glaze applied around the inside of the rim and sometimes inside on the base only. On rare occasions the ware is reduced and then the fabric takes on a buff colour and the glaze is a green colour. The description fits the first four items; however, Figure 12, No. 5, with its globular body form, does not have the same rim form as Figure 12,

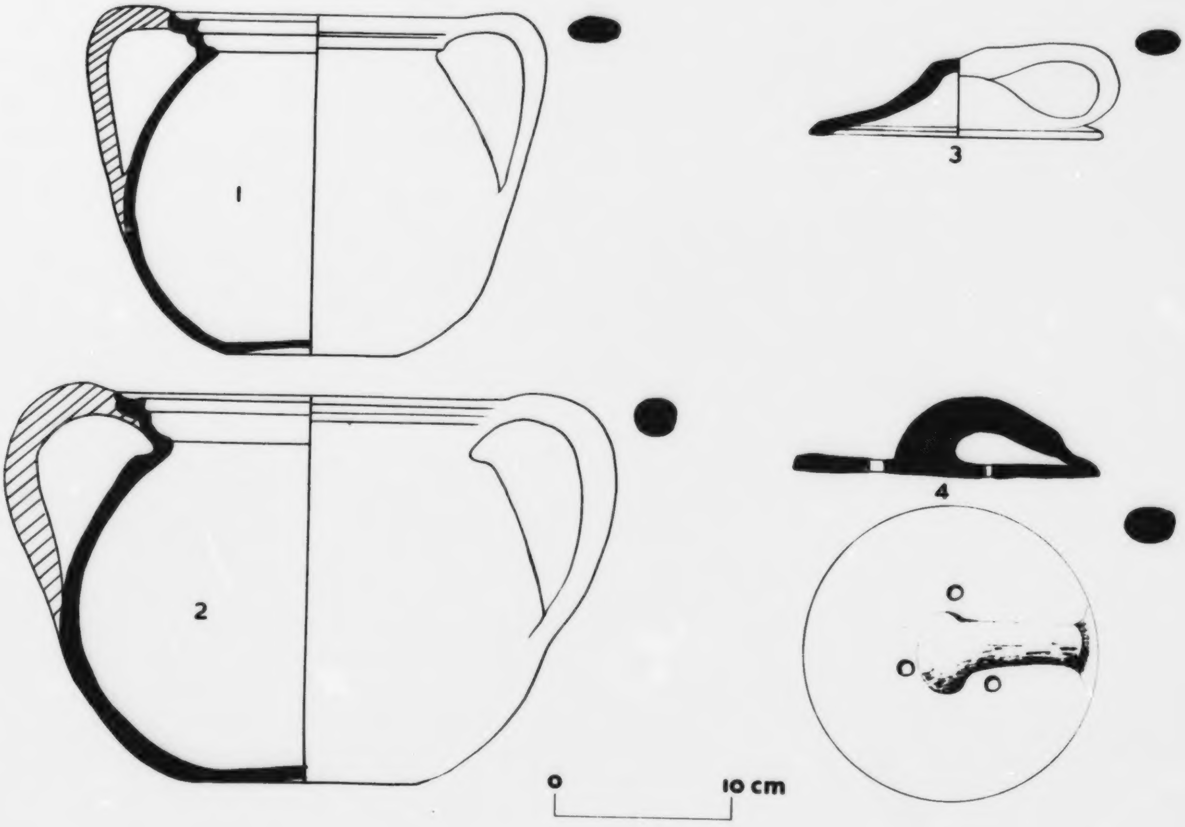

Figure 11

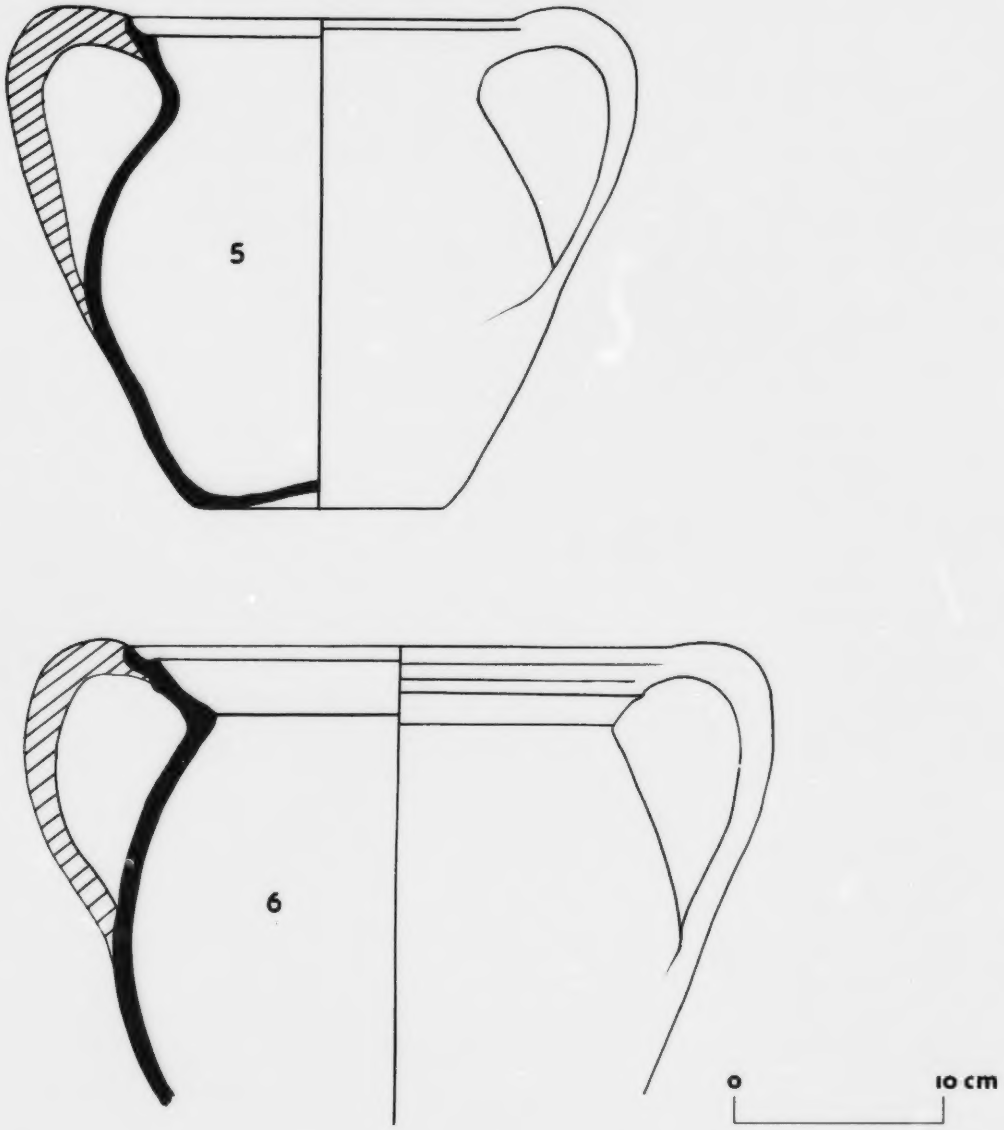

Figure 12

Nos. 1 and 2. The flange is wide and the return of the shoulder is very sharply angled. The fabric which is different to the other wares in this group is similar to that in type L8. But there are no pieces in that group that have similar characteristics of style and manufacture. It is probable that this is just a closely related member of the L3 group made at another source than that of the main types.

The classical forms are Nos. 1, 2 and 6 although No. 6 is a particularly large example of this type not previously encountered.

Southern French Wares

L4 Soft Pink/Red Smooth Untempered Fabric Generally Covered Inside Only with a White Slip (Figs. 13-16)

Comprises a substantial part of the French material in this collection and is in a style readily identifiable by the decorative processes used. The two principal forms of decoration are achieved by cutting through the slip (sgraffito) or trailing slip in whorls of different colours in this slip. The sgraffito-decorated types comprise mostly bowls of the same size with the exception of Figure 13, No. 2. The commonest form of drawn decoration is the form of a bird; these are shown variously as "a bird as held in the hand" (Fig. 13, No. 1); "water birds" (Fig. 13, Nos. 2 and 3); a small long-beaked bird (Figures 13, No. 4); fish (No. 5), and flowers and rushes (Fig. 13, No. 6). This last example is very carefully executed, the quality of the decoration

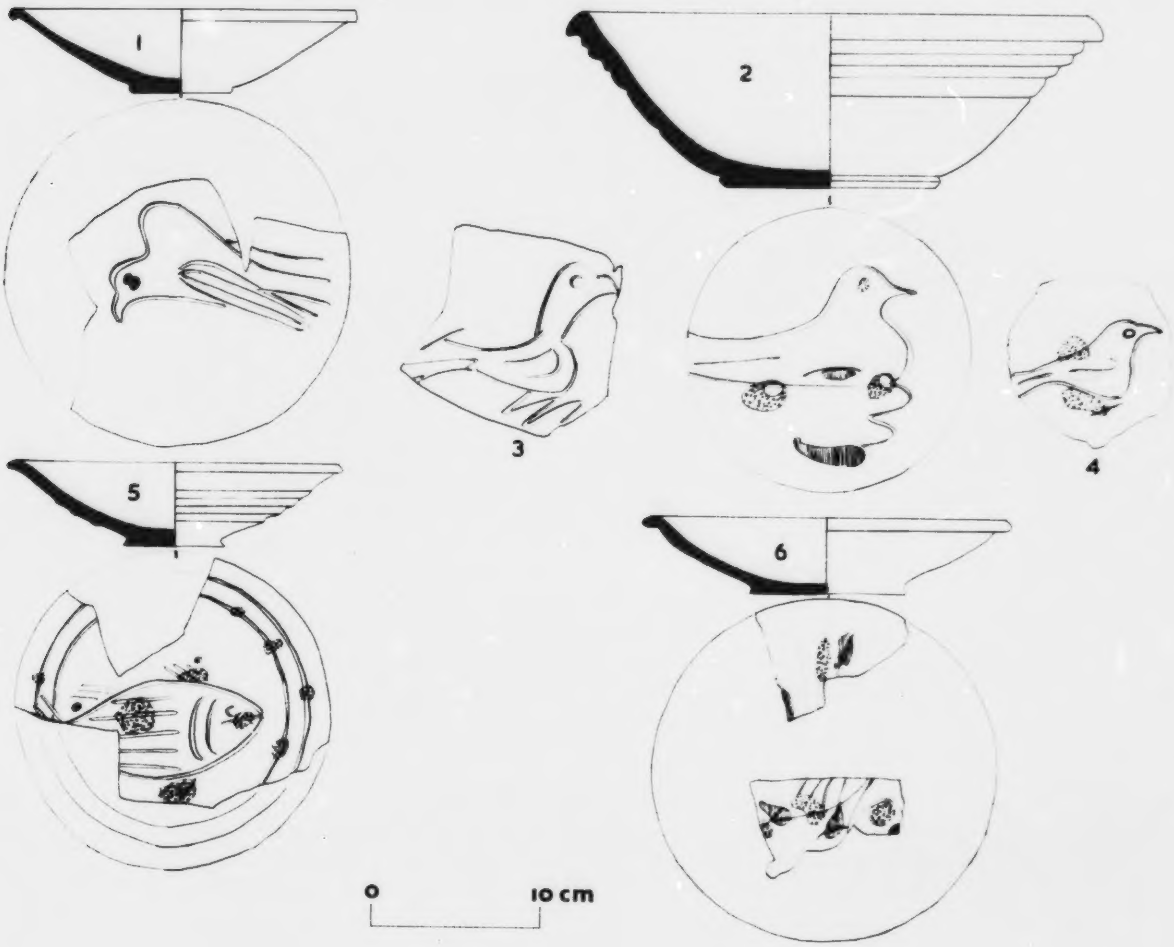

Figure 13

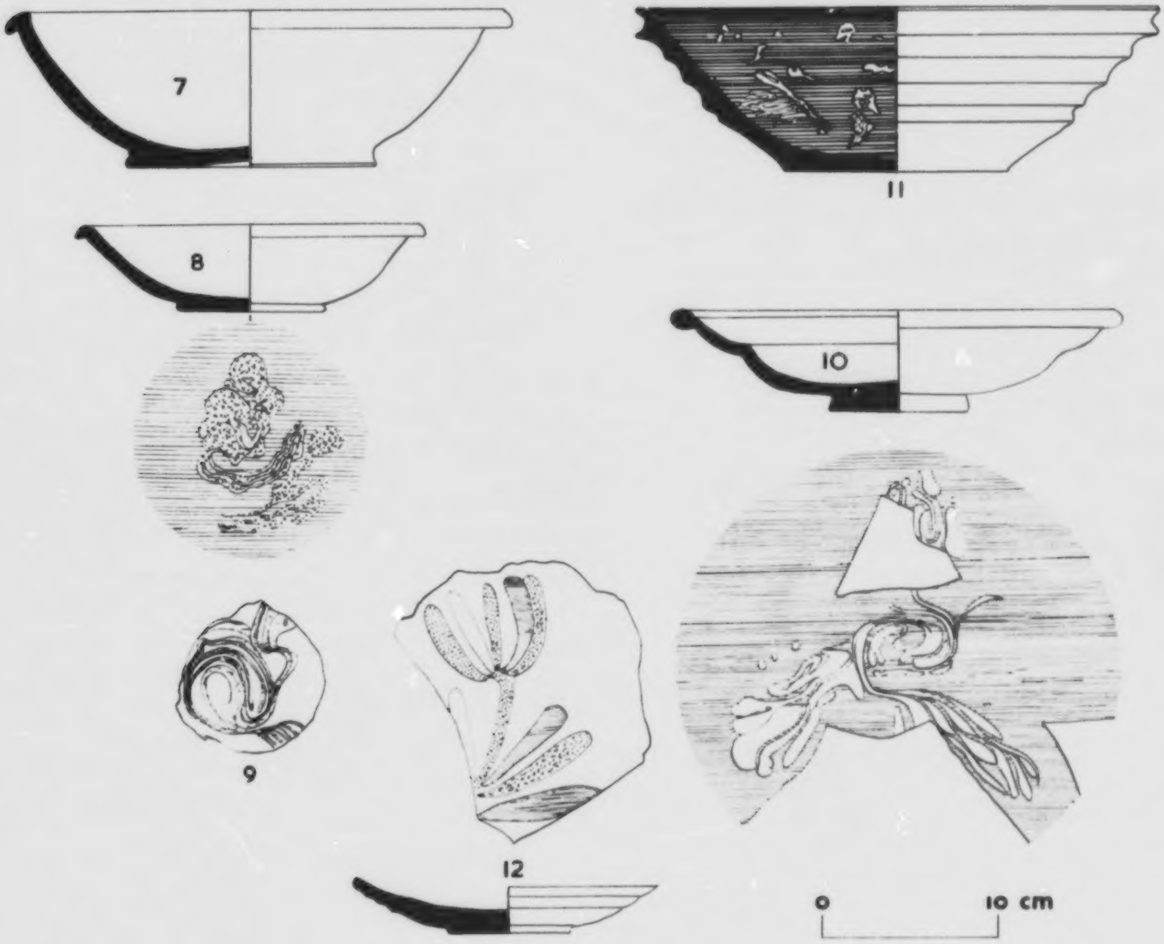

Figure 14

being exceptionally fine in comparison with the rest of the material. On this particular vessel the base is fettled and the side smoothed down. The vessel's decoration is further embellished by the addition of patches of coloured slip in green (shown as dots) and brown (shown as hatching). This colour range was also used on the flower and rushes design (No. 6).

The whorls which also occur on bowls are similar in pattern to those illustrated here. The principal pattern is of a white slip on a red slipped interior (Fig. 14; Nos. 9 and 10), but whorls also occur in green slip on a white slip, and green slip on a red slip (Fig. 14, No. 10), or, as in (Fig. 14, No. 11) the white slip has been applied while the red slip is wet and gives a splotchy finish. Two principal rim forms occur as shown on Figure 14, Nos. 7, 8 and 10, the less common example is Figure 14, No. 11, which is somewhat similar to a vessel from the *Machault*. This is not, however, a unique piece but belongs to the group as attested by the fabric, the glaze and the colour. Figure 14, No. 12, is the base of a vessel in similar form and fabric to the others and in this case decorated in green and brown slip in the form of a tulip on a white slip ground. Another vessel with a similar pattern was found in the wreck of the *Machault*. One of the "whorl" bowls was inscribed on the outside after firing with the figure "4." Other shallow bowls, which could be platters, are identical in profile and diameter size to these, but are lead-glazed to a plain yellow colour and undecorated. A few examples of ring and dot decoration do occur within this group as illustrated here by Figure 15, Nos. 13, 14 and 15. The principle of decoration employed is similar to that seen on type L1 although there is less variation in style, less precision and less consistency of the firing in this type. The variations appear as green and red on yellow ground or white or yellow on a red ground.

Two Porringers (Fig. 15, Nos. 16, 17) - Both of these vessels are yellow in colour. They have horizontal five-segment and three-segment handles on each vessel. Only a few examples of these occur, of which these are the best. The fragment (Fig. 15, No. 18) is from a jug covered on the outside with a yellow glaze. There is also a bottle (Fig. 15, No. 19) with the same internal rilling as in the jug.

The Coarsewares(Fig. 16, Nos. 20-25) - These are similar in fabric and technique to the fine wares and also have similar rim forms.

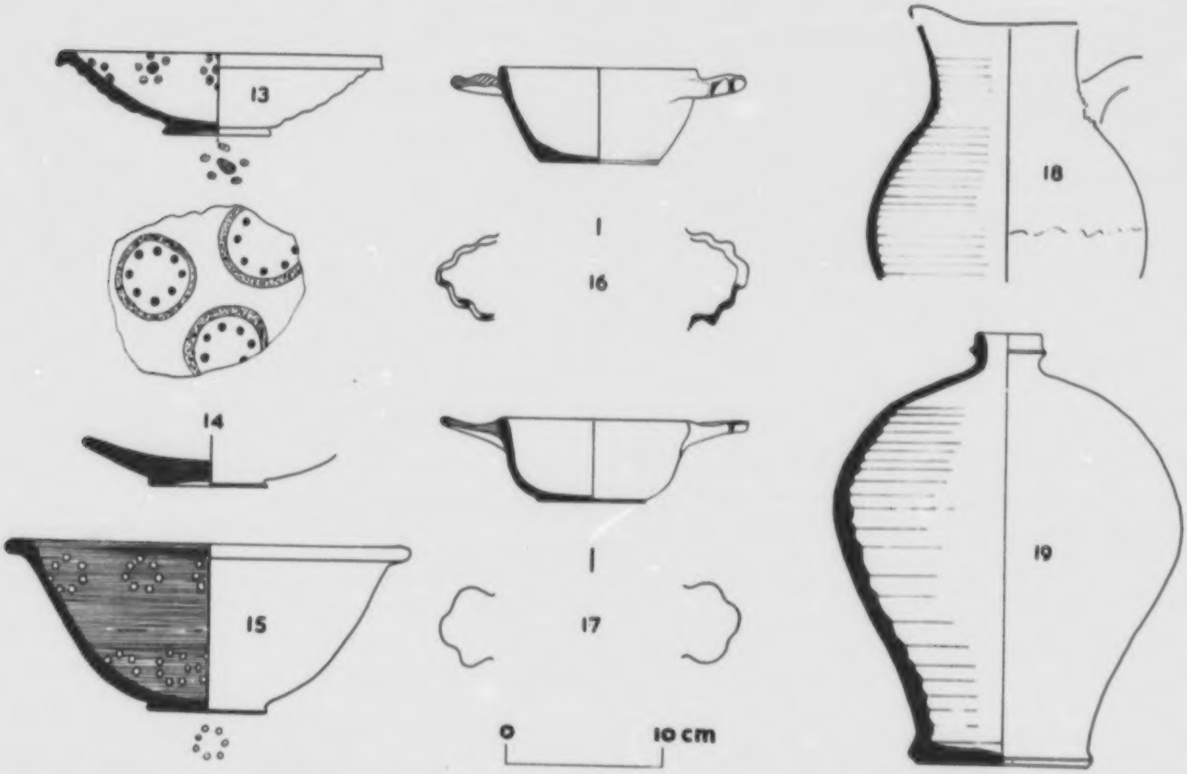

Figure 15

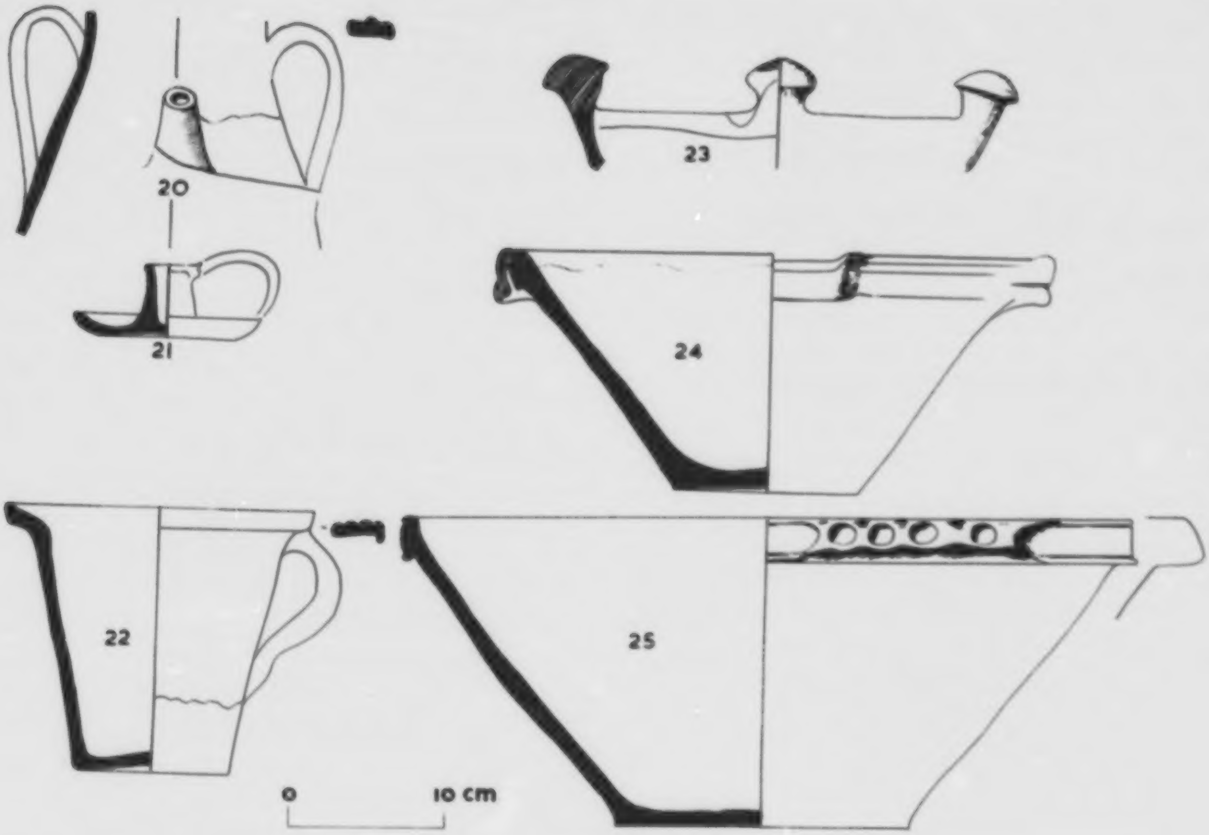

Figure 16

Two principal types occur - chamber pots (No. 22) of which there are many examples. These are slipped inside and out and the glaze can show yellow or sometimes copper green outside, but always yellow inside. Externally the glaze on these vessels is carried down to two-thirds of the depth of the pot. Creamers (Nos. 24 and 25) form another large group. These can have a yellow colour on the inside. Square pouring spouts and small, almost residual handles occur on these vessels, these are similar to the handles seen in group L5. There is a colour variation on these wares; some types are completely covered in a dark red slip giving the glaze a chocolate colour. These brown wares also include porringers, bowls, and the spouted jug (No. 20), candlestick (No. 21) and a chafing dish (No. 23).

Nothing similar to these wares appears in publications from France. However, parallels are to be found in the museums and archaeological collections in the south of France. Whorl-decorated dishes in the same fabric as these, ring and dot decoration in exactly the same form as these, the lug handles with the indentations as shown on No. 25, and the residual handles that occur on No. 24 are also commonplace in this particular region. What is more significant however, is that the sgraffito wares are similar to excavated material held in the Department of Archaeology of the University of Provence, in Marseilles at Saint Victoire Church and also in post-medieval pottery collections at the Musée de Provence, Grasse. In the Musée Cantini in Marseilles there is a group of four plates, all of which are said to have been made in nearby Aubagne, three of which are dated with mid-17th-century dates, the fourth has no date at all. This fourth plate is more coarsely executed than the rest. It is decorated with birds, fish and human figures in costumes in the style of the beginning of the 18th century. The birds above the figures are executed in exactly the same way as that on No. 5. The floral decorations on No. 6 are common on vessels of 16th- and 17th-century date excavated in the area and there is little or no doubt that such wares as were found in Louisbourg were commonplace in Marseilles in this period. This is further borne out by the fact that the bird, No. 4, was recognised instantly by Mrs. J. Chamberlain, M.A., B.Sc., then Curator of Natural History in Portsmouth Museum, England, as a bee-eater, a Mediterranean species, and the fish, No. 5, is not an Atlantic or North Sea fish but probably represents a daurade, another common Mediterranean species.

Whether or not these wares were made at Aubagne is not known. A visit to Aubagne showed that there was no known documentation nor any oral tradition of ancient potting. However, as will be seen below, there are three principal potting centres in the Marseilles/Antibes region, the other two being Biot and Valauris, centres which also lack a historical or oral potting tradition, but from which it can be shown material was certainly exported into Louisbourg.

L5 Small Storage Jars (Fig. 17, Nos. 1-5; *see also* L4)

These vessels, in a vesicular pink-coloured fabric, are slipped up to the rim in the same way as type L1. The fabric is similar to type L1, but in this instance it is heavily charged with a tempering of fine, angular quartz and small ochrous pebbles. The glaze colour is yellow, the handles are ephemeral folded lugs with deep indentations in the top. These vessels are obviously designed to hold a measure of perhaps a liquid or some friable material, and to take a cap that is tied around a notched top. In some instances the bases were deliberately thickened as can be seen in Nos. 4 and 5. This may have been deliberately designed to cheat the customer. A fragment of one of these vessels has bright green glaze on it.

The nature of the fabric of these vessels has been modified by the addition of a tempering media which is deliberate in this particular instance and alone amongst all the French wares examined - it is known to the writer to exist in other wares from the French littoral. The colour of the fabric, the colour of the glaze and the form of the ephemeral handles point to a source in the south of France where such features occur on other types of vessels. It is, therefore, probable that these vessels actually belong to group L4. Their purpose is not known but Chapelot has suggested to the writer that they were probably designed to carry sugar. A fragment of one of these vessels, found in the Bay of Cannes, is in the collections in the Department of Archaeology in the University of Provence.

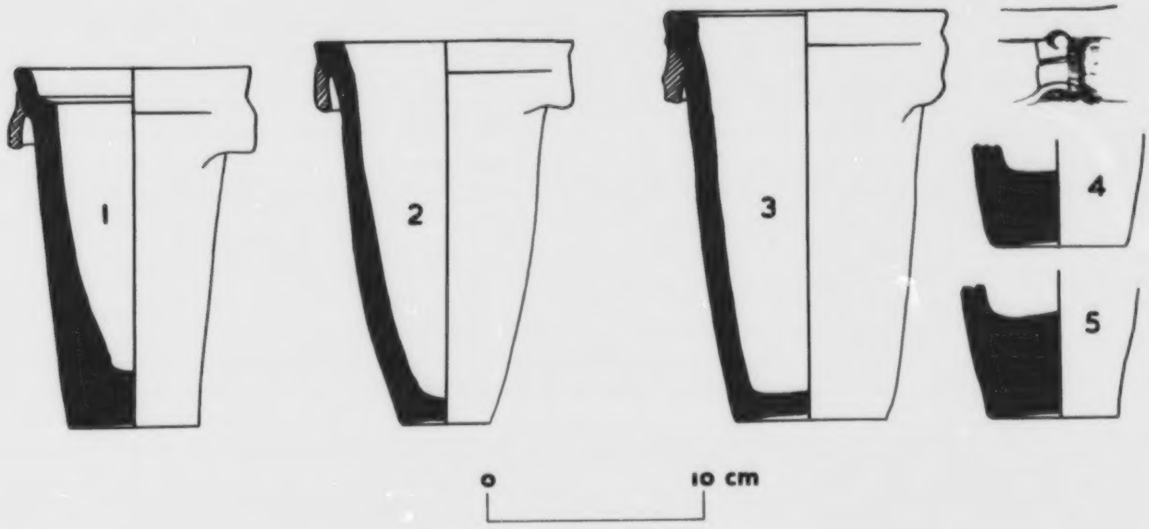

Figure 17

L6 Round-Bottomed Cooking Pots and Allied Forms (Fig. 18, Nos. 1-8)

This is not a common ware at Louisbourg; it is much commoner at Beauséjour, but is represented by only one fragment from the wreck of the *Machault* (1760 A.D.). The fabric is coarse and buff-coloured and tempered with fine quartzite material. It is glazed inside to a pale iron green colour and outside to an oatmeal colour, the white specks caused by the quartz chips showing through the glaze.

Nos. 1 to 3 are round-bottomed cooking pots the rims of which are in three standard sizes of 11 cm, 9 cm and 7 cm radius, of which 9 cm is the commonest size. There is a range of other culinary vessels as shown here in Nos. 4-8. No. 4, a dish, has a horizontal handle in a form similar to those seen on type L1, No. 24, and also on the small storage jars, type L5. Handles of this sort are common to some vessels in the Musée de Provence at Grasse, Provence, France and are also the same form as the handles on the round-bottom cooking pots, Nos. 1-3, linking them with types found in Provence; this indicates that the origin of these vessels is southern French. The jug, No. 6, is of a finer quality then the rest of the vessels; it is well-thrown and well-finished although the handle is set slightly askew. It is also glazed internally as are the pots. No. 8, an incomplete, well-decorated vessel is regular and carefully turned; it is of similar quality to No. 6. Vessel No. 7 is much cruder than the other vessels and it is possible that this was made originally as a mortar or certainly as a dish for pounding as is indicated by the marks on the inside of the base.

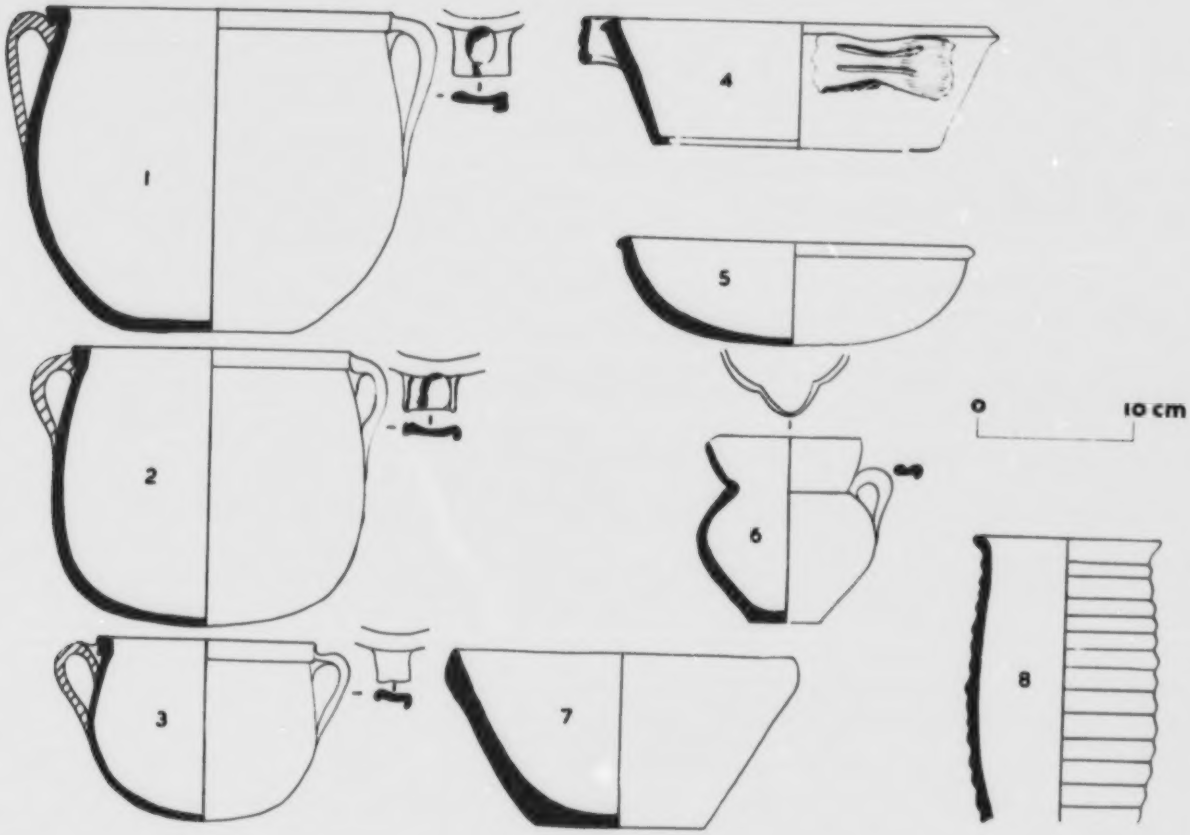

Figure 18

Possible Southern French Wares

L7 (Fig. 19, Nos. 1-9)

This group is an amalgamation of types. Some of these types may be from L2 and some from L1 although they do not readily fit into either category. They are all green-glazed vessels, fired rim down, some on a white fabric with a copper glaze and some on a red fabric with an iron-green glaze. There are certain characteristics which bring them together into one particular group (Nos. 1-4). Nos. 1 and 2, with their pinched decoration on the external rim flange and their well-turned rims, are probably the product of the same hand, and certainly made by a potter who enjoyed turning his rims. The pouring lips are not square as in L4 but are pulled into an indented semicircle. There is no doubt that those vessels are French and they could well be southwestern French in origin. The pieces 3 and 4 are probably southern French in origin as shown by the lug handles and are similar to those illustrated in type L1, No. 25, but the rim forms are not the same as type L1 nor is the fabric, which in this case is white with a very striking reduced copper black and green internal glaze. Bowl No. 5 is included here as the rim turning and the profile are similar to those on Nos. 1 and 2. The flanged lug vessel No. 6, although exhibiting none of the profile characteristics of other vessels in this group is in the same fabric as Nos. 1 and 5 and the glaze colour is the same as No. 5. No. 7, an enigma, is a jar reconstructed from very small fragments. It has a turned rim and has a soft pink unglazed exterior onto which a human face has been inscribed after firing. No. 8, a skillet and No. 9, a plate, are in the same fibre and glaze colour as No. 7.

There is, therefore, a range of vessels in a fabric which appears to go from white through to pink, to which has been added a glaze with a strong copper base in some examples and others in which less copper has been used. It is probable that Nos. 1, 2, 5 and 6 are of one origin and Nos. 3, 4, 7, 8 and 9 are from a different source.

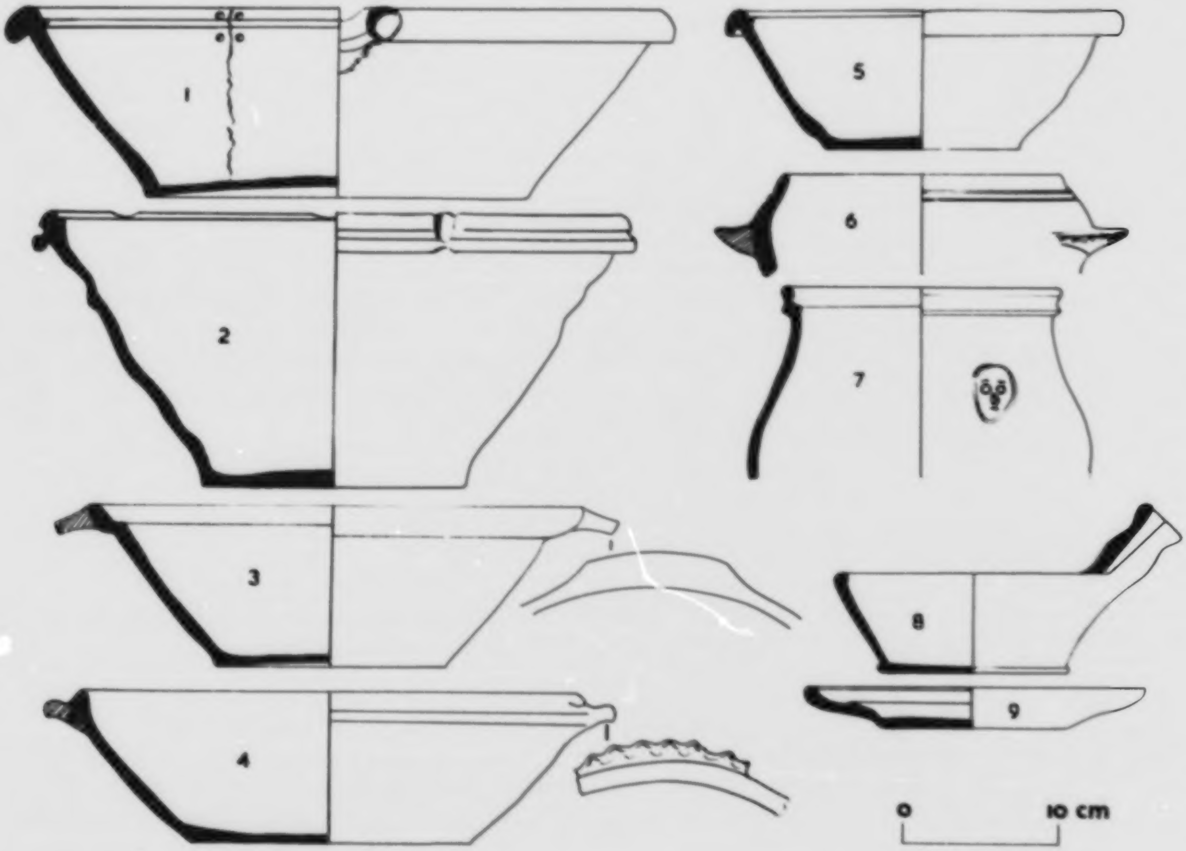

Figure 19

Northern French Wares

L8 (Figs. 20-22, Nos. 1-28)

These specimens are of hard dense white fabric with no inclusions except an occasional small ochrous pebble. The body is very smooth to the touch and feels like newly hewn chalk. The vessels are hand-thrown, are always fettled and have a well-turned base. The glaze is pure lead giving a yellow colour; the vessels are glazed inside only. The basic decoration is a trailed red and green slip as on the small plate Figure 20, No. 1. The decoration is of dashes which are alternately red and green in colour whereas on the larger examples of bowls (Fig. 20, Nos. 2, 3 and 4) there is a single colour or a mixture of both colours. The rest of the decoration is in scrolls and abstract flowers as in Figure 20, No. 3 upper and No. 4. The decorations are usually under a fine glaze, but occasionally a thicker glaze is applied which gives a very shiny appearance. It would seem that these wares are biscuit-fired as there is very little running between the decoration colours and the glaze.

There is a range of coarser wares, some of which are decorated and some of which are not. These decorations take two forms. The first one is decorated by sprinkling copper onto the glaze (Fig. 21, Nos 13-18, 20, 21). This has bled in the direction that the fluxed glaze has flowed. It gives a colour range from yellow with a golden hue to green

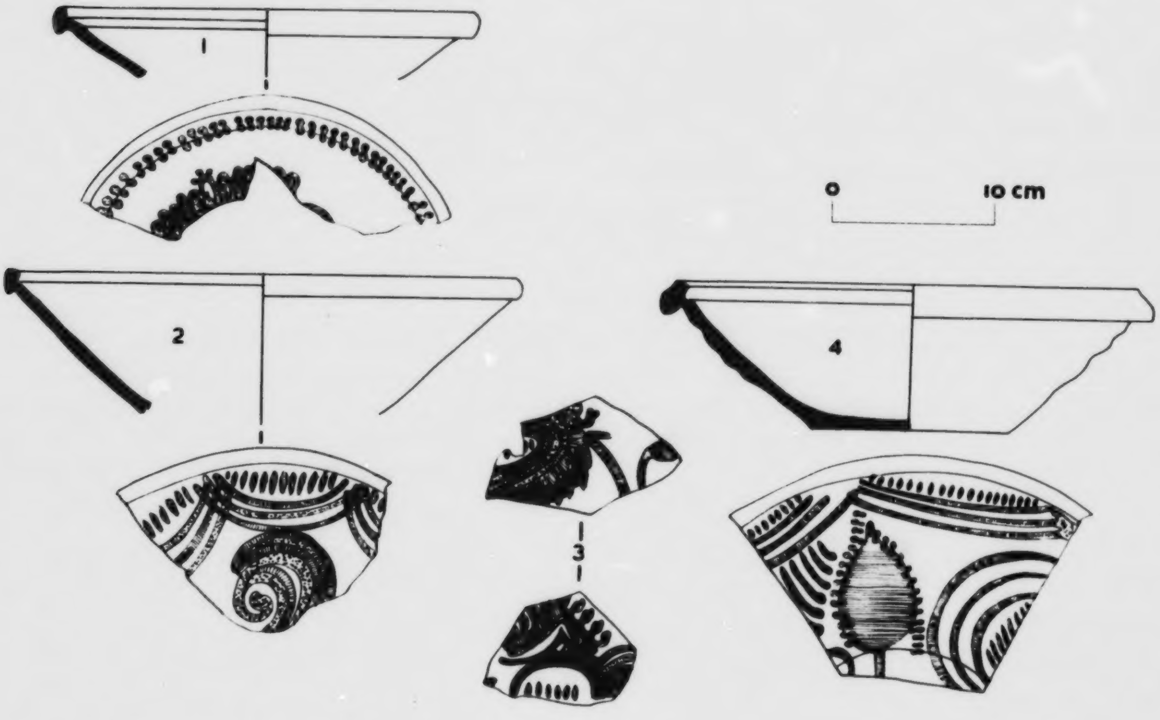

Figure 20

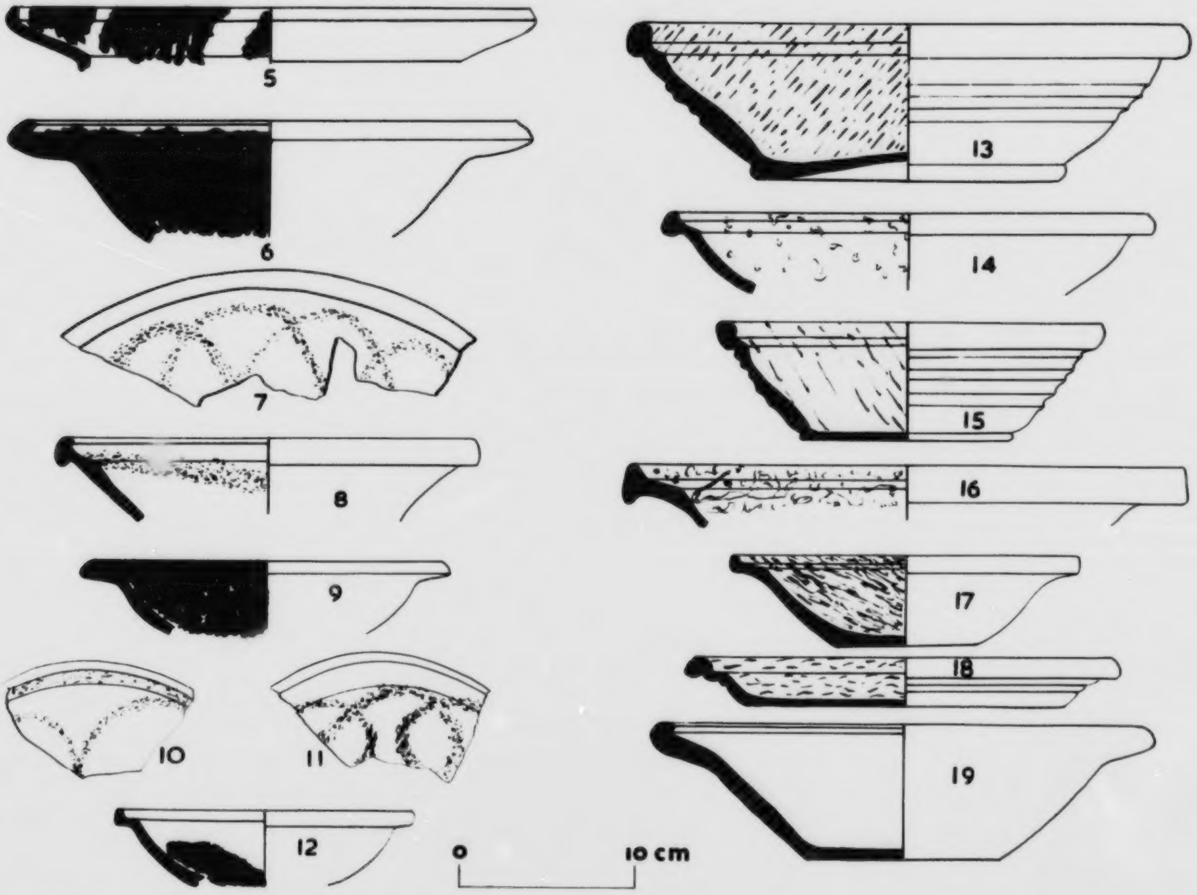

Figure 21

and brown blotches, depending on how much reduction the vessel has undergone in the kiln. There is another type of decoration (Fig. 21, Nos. 5, 6, 9, and 12) which involves the use of hematite. This is often crushed to the consistency of sugar, then laid on the surface of the wet glaze which it stains in colours ranging from purple through brown to a dirty black. The powder is often applied indiscriminately as if from a coaster or is carefully poured on as can be seen from examples in Figure 21, Nos. 7, 8, 10 and 11. Whatever system is used, the decoration is unmistakable, mottling both the yellow colour glaze and the white fabric. As can be seen, the range of vessels comprises principally bowls (Fig. 21, Nos. 5 to 19), including those with the fine decoration (Fig. 20, Nos. 1-4). There are also tripod skillets (Fig. 22, No. 20; *see also* handle No. 23), bifid flanged (and therefore lidded) handled jars, looped and pendant handled chafing dishes with internal glaze, and moulded handled porringers (Fig. 22, Nos. 24-26). The bases (No. 28) are an indication of the general form and size of bases in this group. The lid No. 28 is made from an inverted bowl.

The rim forms of Nos. 1 to 19 are strong indications that these wares were made in or near Beauvais, in the north of France, and this is borne out by the looped chafing dishes found in that area. Monsieur Morrison of the Group de Recherches des Beauvaises indicated to me that he believes these vessels to have been made at Martincamp near Sorrus in the north of France. Such wares are commonly found and equally distributed in southeast England and the Channel Islands.

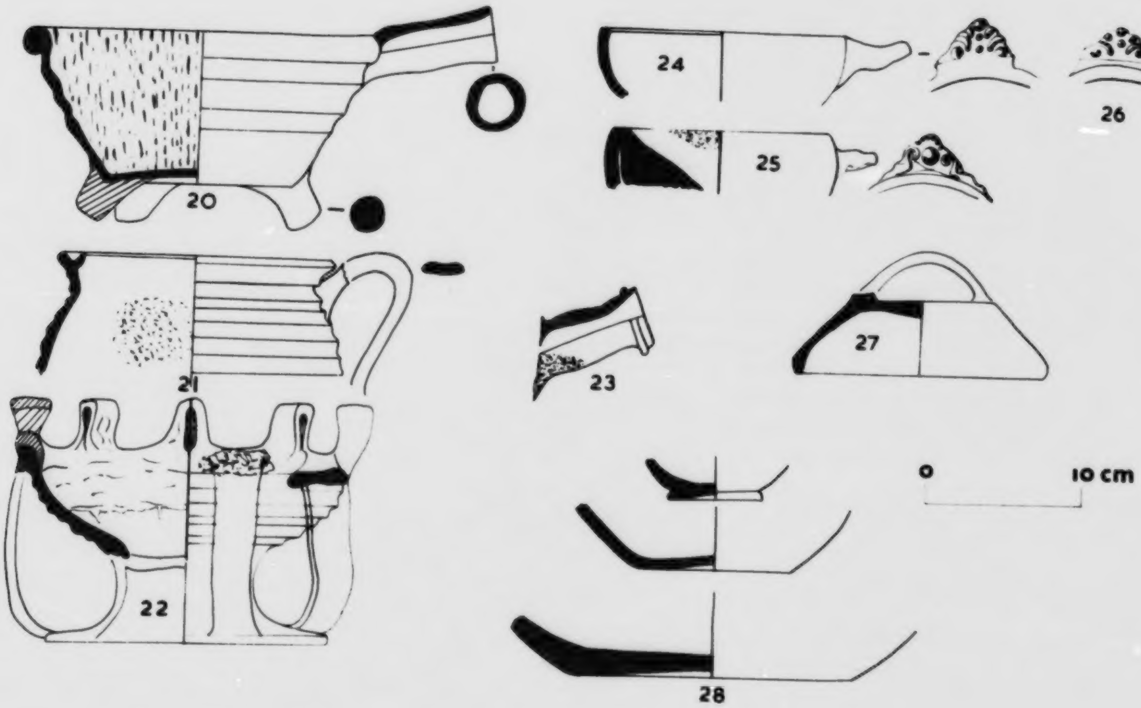

Figure 22

Possible Northern French Wares

L9 Hard, Bright Red Fabric (Fig. 23, Nos. 1-6)

These vessels are well-thrown, fettled and trimmed. The trailed slip decoration is in green, pale to dark in colour, or purple, or a combination of both colours over a thin white slip on the inside only. This decoration takes the form of hatching within bands or scallops or on lines principally on the inside of the rim. The quatrefoil decoration on the inside of the base is the only type seen here, and occurs commonly on vessels of this type found in the wreck of the *Machault*. The only vessels found here were bowls and deep dishes and these examples illustrate the majority of the types; the source has not yet been determined. The form of the vessels is similar to that of group L8; such shapes are not common to the typing from the southwest or south of France. Therefore this group should come from the north of France or maybe from the Low Countries.

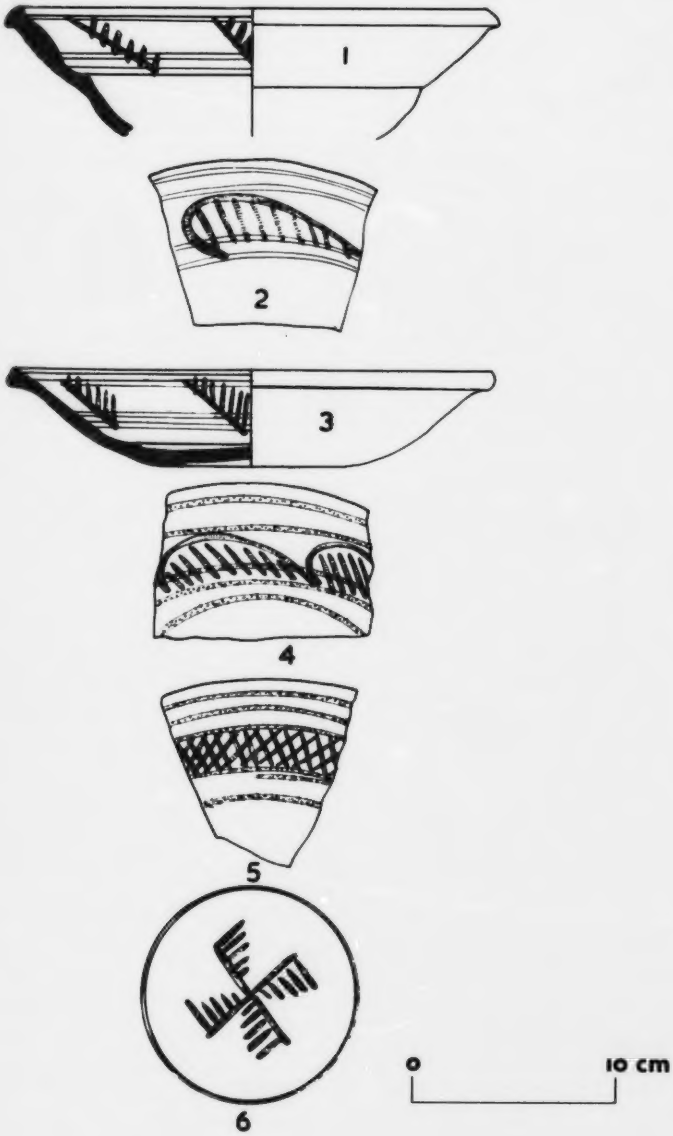

Figure 23

French Wares

L10 Brown- and Red-Glazed, Pink-Fabric Ware (Fig. 24, Nos. 1-8)

The fabric is pink or it can be red. It is of fine quality, well-prepared and well-potted. There is a certain amount of iron in the fabric that bleeds into the glaze, giving a brown fleck. The glaze colours range from yellow to brown. The range of vessels comprises open bowls and dishes, and probably a lid, No. 7. There are also the fragmentary remains of large coarsewares, which are principally wide-flanged dishes and creamers too minute for illustration. These vessels appear to have had horizontal handles. They are very close in style, quality and fabric to some of the examples of types L1 and L4, so close as to make true recognition difficult. The method of finishing the vessels on the wheel varies slightly from these and the colour of the fabric is lighter. The most striking feature is the rim form different from all other types with the exception of Nos. 5 and 6; such vertical rim forms occur principally on vessels in the north of France.

The round base of No. 1 and the rim form of Nos. 2 and 4 are similar to the examples illustrated in type L6. It is possible that this is not a single type of vessel but a mixture of others as suggested by the forms; the close and exact consistency of the fabric type makes division difficult.

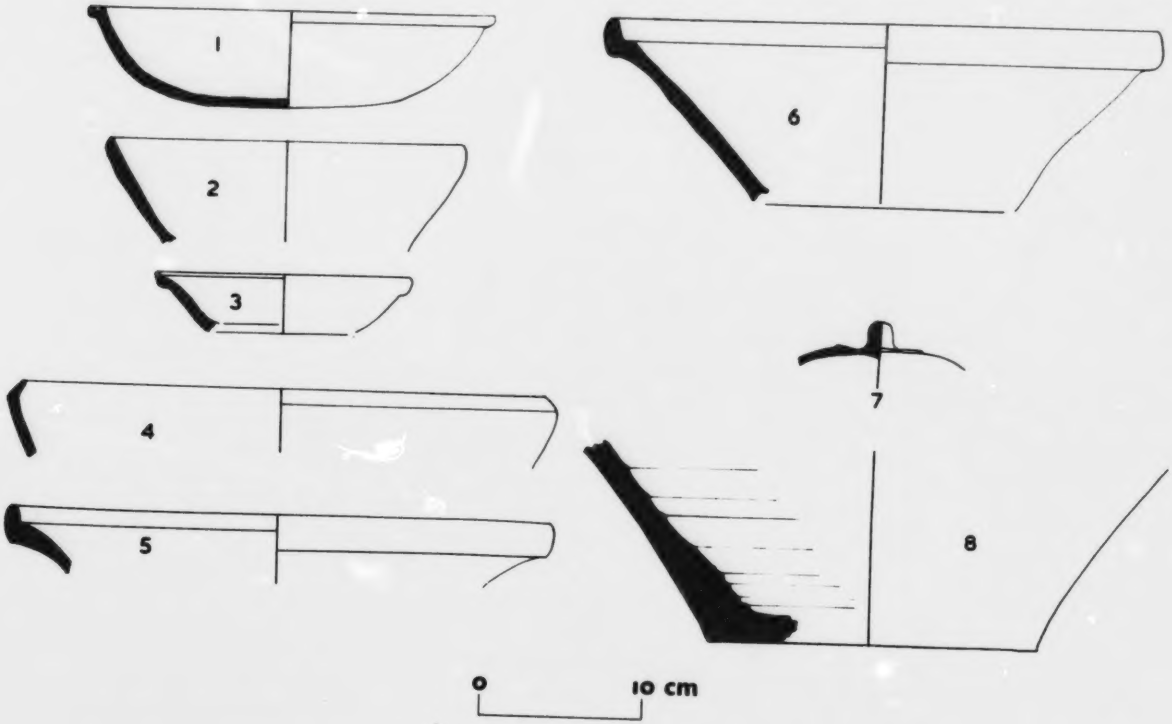

Figure 24

L11 Grey/Buff-Coloured Ware (Fig. 25, Nos. 1-4)

This fabric is sandy and coarse to the touch; it has been heavily tempered with mica, of sufficient quantity to make the identification of this ware unmistakable. The glaze is iron-green in colour sometimes showing as brown. This glaze too has flakes of mica in it giving an irridescence to the surface shine. The remains of only four vessels occur; the majority of the fragments are from the large two-handled jar and the others are very mutilated. The shallow pan is a reconstruction from many fragments.

The form of the two-handled jar fits comfortably with those already noted, in type L3, and the three vessels, Nos. 2, 3 and 4, can be equated in rim form/vessel form with types L10 and L7. The forms of these vessels are strong indications that they come from the same region. That they are French is likely, but their exact source remains unknown. The unusual combination of reduced fabrics with a high micaceous content having a simple lead glaze with an iron-green colour is sufficiently unusual to set this ware apart from the rest.

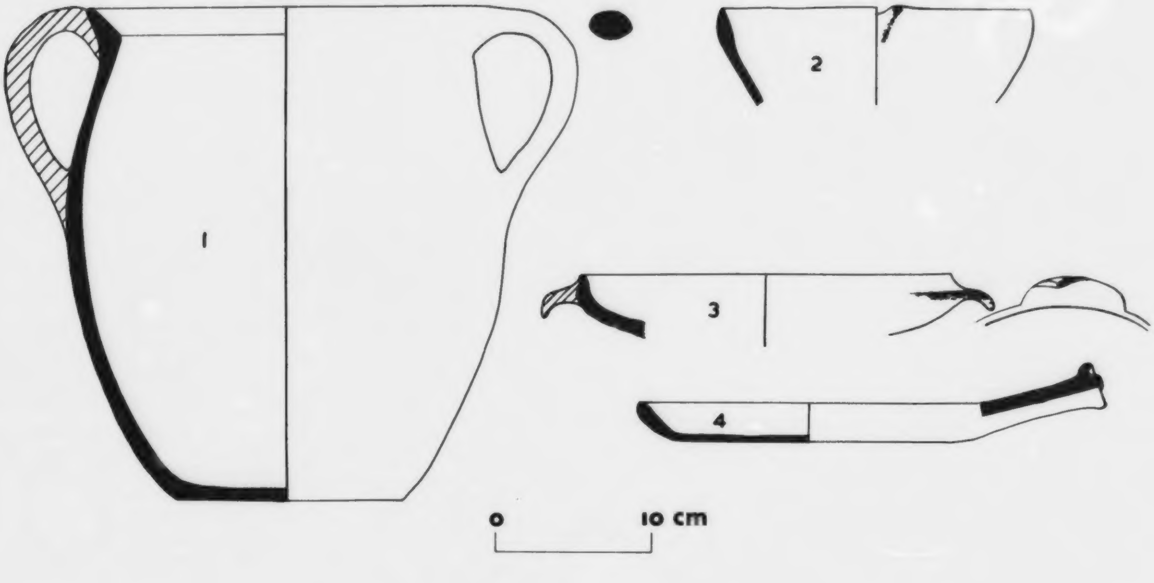

Figure 25

L12 Green and Purple Trailed Slipware Dishes (Fig. 26, Nos. 1-8)

This is a series of dishes and decorations of the same type as that found to be a large part of the pottery cargo carried in the *Machault*. This is a soft red earthenware covered inside only with a white slip.

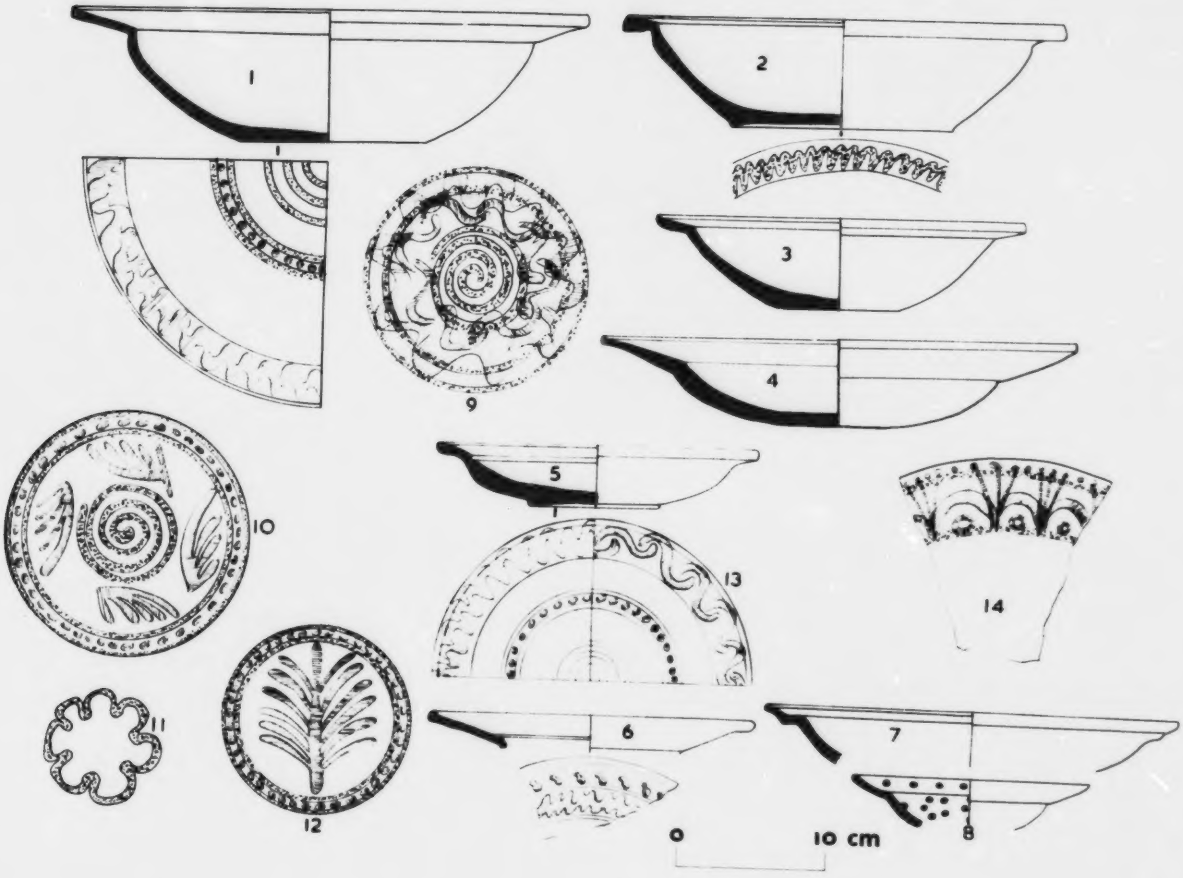

Figure 26

The surface of this slip is decorated with iron and copper-rich slips in a series of motifs, most of which are applied on the wheel. The copper-rich or green decoration is usually in the form of thin green lines. The iron-rich decoration, which is purple in colour, makes up the swags, key patterns, zig-zags, dots on the rim, and dots in the centre. A common feature to all these vessels is a central whorl of green. The wares comprise bowls Nos. 1 to 7 of which three sizes are indicated by their radius of 17.5 cm, 15 cm, and 12.5 cm. Only the central decoration on the big bowls is interpretable and four varieties are shown here.

There are examples of bowls and dishes of this type and in this fabric that have an all-over iron-stained mottled brown glaze. This is not regular or well-controlled mottling, but haphazard. The glaze colour range in these vessels is from light to dark brown. There are also white slipped wares, in yellow glaze colour with a ridge on the rim as in No. 7. Two sherds of this yellow ware have a red spot decoration as illustrated.

The source of these wares is not known nor is it easy to parallel the plate forms although they do come nearest to those in type L4, No. 10. The ware is of a very poor quality and liable to damage and staining although fortunately many of the examples from Louisbourg are not badly stained. This, however, does not give an indication of the source. The fact that they were a major part of the cargo of the *Machault* is also no real indication as to the source as the *Machault* was carrying mixed goods. Pieces of such wares are known in Jersey and Guernsey, Channel Islands, but have not so far been traced or identified in England, nor have they been traced to any of the archaeological collections in the south of France. However, due to the lack of recognisable western French characteristics, it is felt that they come from some source on the northern shore of the Mediterranean.

Southern French Storage Jar

L13 (Fig. 27, No. 1)

This is the neck and upper part of a southern French storage jar of the type commonly manufactured in Biot (Alps Maritime). There are many fragments of similar vessels from this source at Louisbourg. This is in a very coarse, very hard, open-textured white fabric, the distinctive feature being the rolled neck which is a pale yellow glaze colour internally and externally in a band 9 cm wide running round the neck beneath the rim. The rim itself is not glazed. There is also a thin band of white slip at the bottom of this glazed area. In the centre of the glazed band is a circular indentation. These are normally maker's marks, but any stamp mark on this particular piece has been obliterated by the glaze. This ware is a typical product of the kilns of Biot (Durbec 1969). These large globular vessels are known to have been made at least from the 15th century and there is a range of trader's stamps known to have been impressed upon them (Durbec 1969: 37, Pl. 32, 33, 34). Such is the popularity of these jars that they are still commonly produced and can be seen offered for sale in the main square in the village. A collection of them is housed in the Musée de Château Gombert, part of a folklife collection in a 19th-century house, situated in a small village lying in the outskirts of Marseilles. There is also a fine collection in the Musée de Provence at Grasse where a jar of this type is dated 1564. There is considered to be a recognisable sequence of these jars, but this was not immediately apparent either in the literature or in exhibited collections. Fragments of such jars occur constantly in the medieval and post-medieval deposits in Marseilles and in material recovered from the seabed in the ports of Antibes, the Bay of Cannes and Marseilles. A painting by Claude-Joseph Vernet (1714-89), "Vue de l'intérieur du port de Marseille" (now in the Louvre, Paris), shows four such jars on the quayside bound around the middle with straw ropes to prevent them knocking together on the journey. Mr. Ray Fremmer, of Green Park, Falmouth, Jamaica, West Indies, has a collection of large storage jars amongst which is a complete example of a Biot jar and he has kindly provided me with a photograph and information.

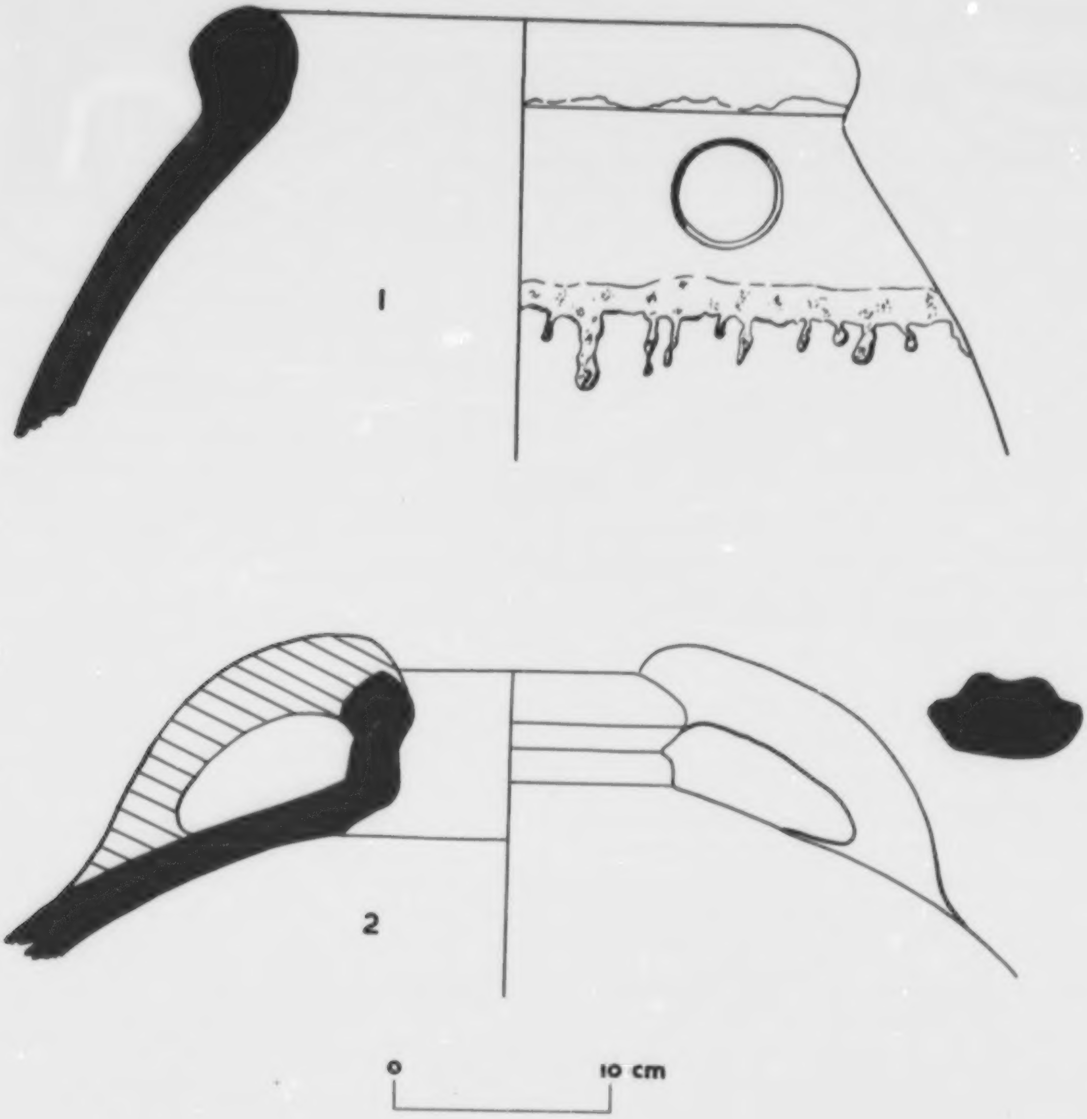

Figure 27

Western Mediterranean Storage Jars

L13B (Figs. 27-32, Nos. 2-13)

There is no evidence of any of the following examples having been made in the south of France. There is a large collection of amphorae of varying periods in the Musée d'Antiquites at Antibes. The majority of these are of classical Greek or Roman origin although there are some fragments which could be from medieval and post-medieval vessels. I have been assured by the underwater archaeologists operating from this principal centre and also by others working in Marseilles that they *know of only amphorae of this kind being recovered from the sea and of* there being little or no parallels on land except very fragmentary examples from Greek or Roman settlements. Therefore, the vessels under discussion probably do not originate in the south of France but either in Italy or, more likely, in the Iberian peninsula.

Figure 27 (No. 2) - reconstructed fragment from a large storage jar with pulled handles 10 cm thick, rising high above the rim. The fabric of this vessel is red, vesicular and very brittle in quality. The outside of the vessel has been slipped white. There is no evidence of glaze on this piece.

L13C (Fig. 28, No. 3) - fragments from the upper and lower part of a similar, if not the same, vessel. The rim and handles are missing from this piece. This is in a very hard, dark red vesicular fabric with numerous fine white inclusions. It has been glazed internally with a lead glaze giving a dark brown colour. It is decorated externally with brushed-on stripes of white slip probably extending in bands down to the waist. These bands are formed of three parts: two parallel straight lines with a wavy line in the centre. The vessel has flat, looped handles and in the one example in the collection this handle has a stamp within the loop. The stamp is large and represents an insignia in the form of a phoenix over a cartouche which is illegible as the fragment is broken at this point. A base fragment from the same or a similar vessel has a hole for a spigot. This hole was probably bored as a result of secondary use after its receipt in Louisbourg.

Figure 29 (No. 4) - one unglazed squash-shaped amphora; coarse reduced, grey/red fabric, very sandy; hard and smooth to the touch; the surface oxydised white (*see* below).

Figure 30 (No. 5) - three unglazed carrot-shaped amphorae. The two outer vessels are in a softish, dark dirty red fabric which feels soapy to the touch. This ware had a high quantity of sand tempering. Where the fabric is oxydised or overfired in parts a white colour occurs; one such vessel has a white patch. The central example is slightly pinker in fabric to the others. It too has a white surface which does not appear to have been caused by any agency other then firing. (This whitening of the outside of the body of some of these amphorae is created by the firing process alone, as is indicated by the patch on the vessel that has been overfired at that point. Unless distinct evidence of slipping can be seen - which should be readily apparent - it must be assumed that the clay of these vessels whitens at a critical point of temperature and that this is a natural process of manufacture.)

Associated with these three amphorae are two discs of unglazed flattened clay which had been cut on the wheel and are used as the base for lids or seals of either wax or resin poured over them to prevent the contents of the jars from leaking.

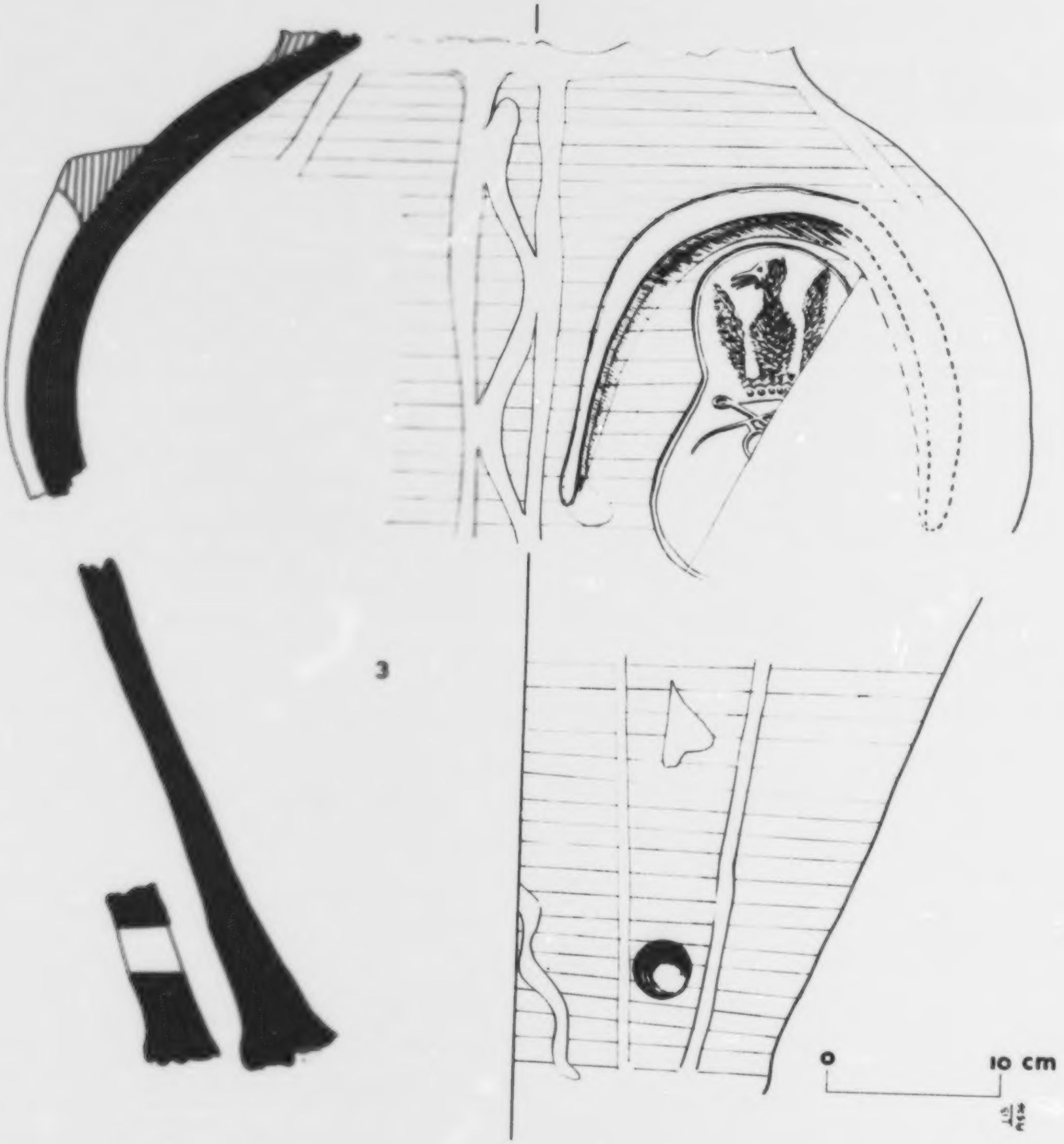

Figure 28

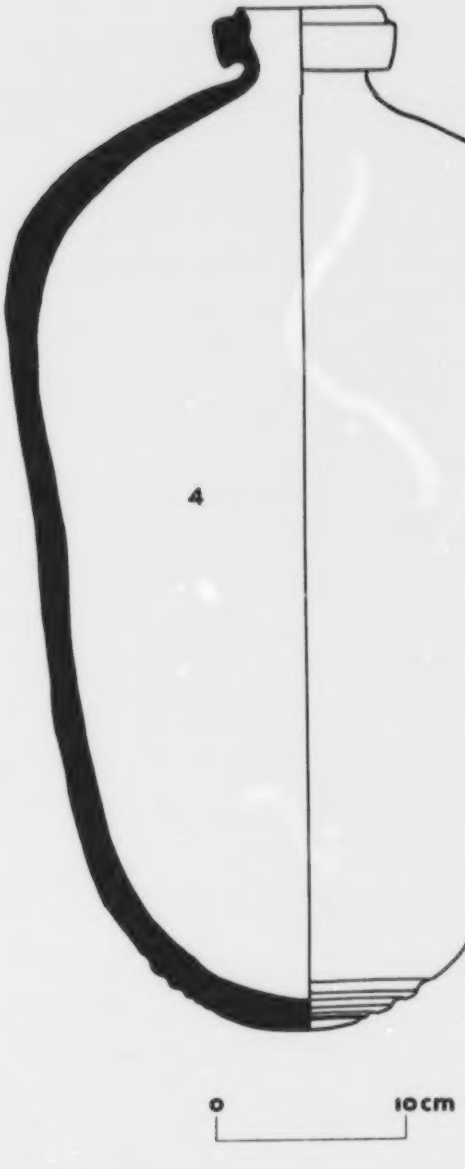

Figure 29

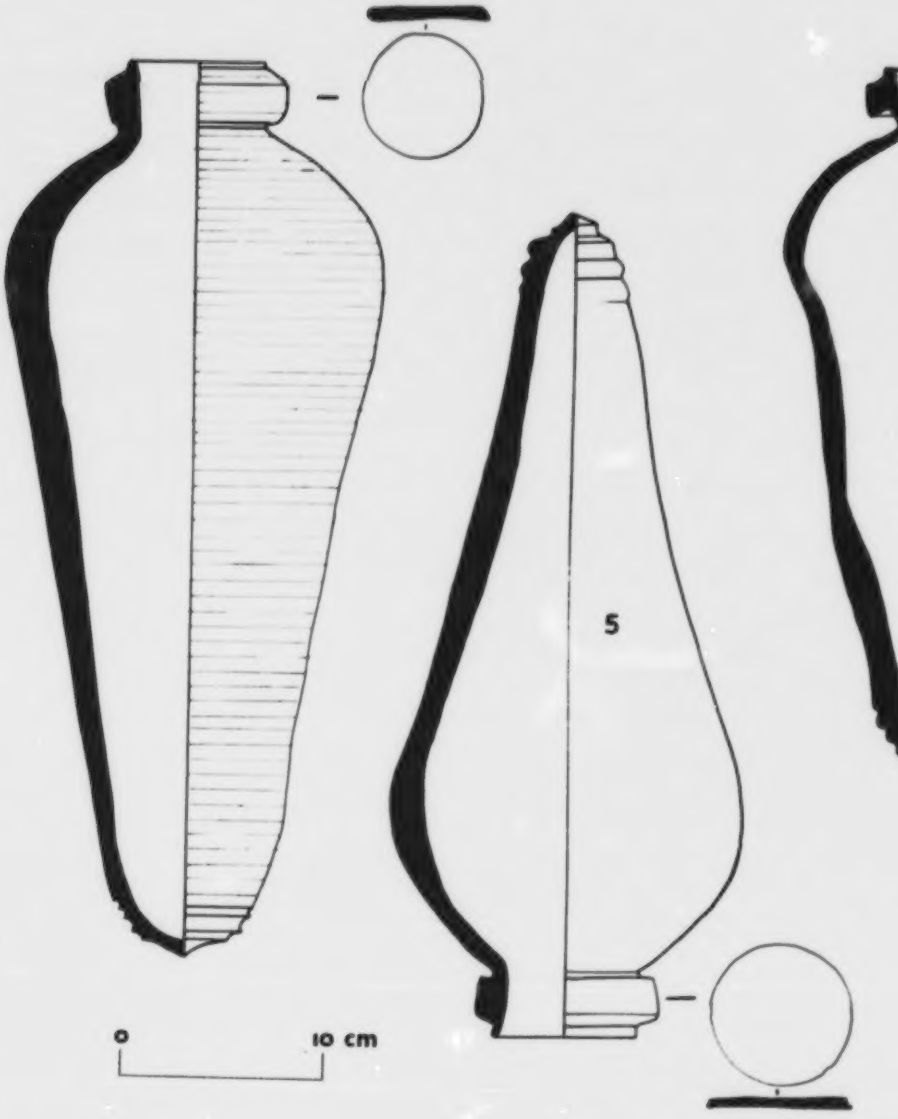

Figure 30

Figure 31 (No. 6.) - small globular amphorae very rough in finish and texture, in a pink to buff fabric with a pale blue/green glaze on the inside.

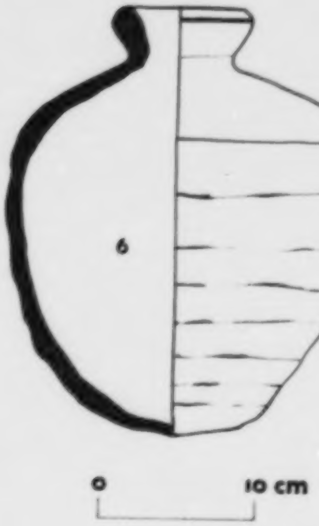

Figure 31

Figure 32 (Nos. 7-13) - fragments from vessels in a similar fabric to the western Mediterranean storage jars. These are uncommon and are shown here as a separate group as they do not fit comfortably into the storage jar pattern, nor into any other type. Nos. 7 and 8 are examples of four similar rims and the fabric is hard and red in colour. The ware is heavily tempered with crushed quartz crystal or, as in a very bright red stoneware fabric, with some crushed white stone and another white substance included in the tempering. No. 11 is a lid in a similar fabric to Nos. 9 and 10, and No. 12 is a lid in a very soft red, extremely micaceous fabric with some evidence of a transferred glaze, having been fired in a kiln with a glaze near it. The form of this particular lid is of interest as it is similar to L3 and there is a soft red micaceous ware with form similar to L3 illustrated in L10. Therefore, this particular lid may not be of Iberian origin.

No. 13 is a base added to the bottom of a storage jar. It is in a soft red sandy fabric covered on the outside with a deliberate white slip. It is unglazed.

There are four other fragments in a fine soft white fabric, parts of an amphorae handle in very soft fabrics, micaceous bodies and patchy blue/green glazes on the inside; some also have this blue/green glaze on the outside and they are in the same colour range as No. 6. There are also other fragments which have no prominent features and are, therefore, not illustrated. These soft fragments, together with the rest of group L13, do not make a considerable contribution to the collection as a whole, but they indicate a far-ranging series of storage jars which might be an indication of a wide geographical source. Goggin (1960) in his introductory study of Spanish "olive jars" sets grounds for a range of types and a very wide distribution throughout Spanish America. He does not, however, parallel the examples, Nos. 2 or 3. (A vessel similar to No. 3 is known from the private collection in Jamaica discussed above.) Goggin does not discuss the smaller items listed here as Nos. 7-13. His commonplace vessels are Nos. 4, 5 and 6. It is evident from the material at Louisbourg and other sites that there is a wider range of these vessels than has hitherto been acknowledged. It is also possible that some vessels in these kinds of fabrics might have been made by Hispano-American potters. This is a point that does not seem to have been given much consideration, but it should be borne in mind that if Hispano-American potters are capable of producing majolica in a fabric which is similar to that on vessels imported from Spain, it would seem reasonable that they may wish to do the same in producing storage jars for exportation of produce from one part of their colonies in the Americas to another.

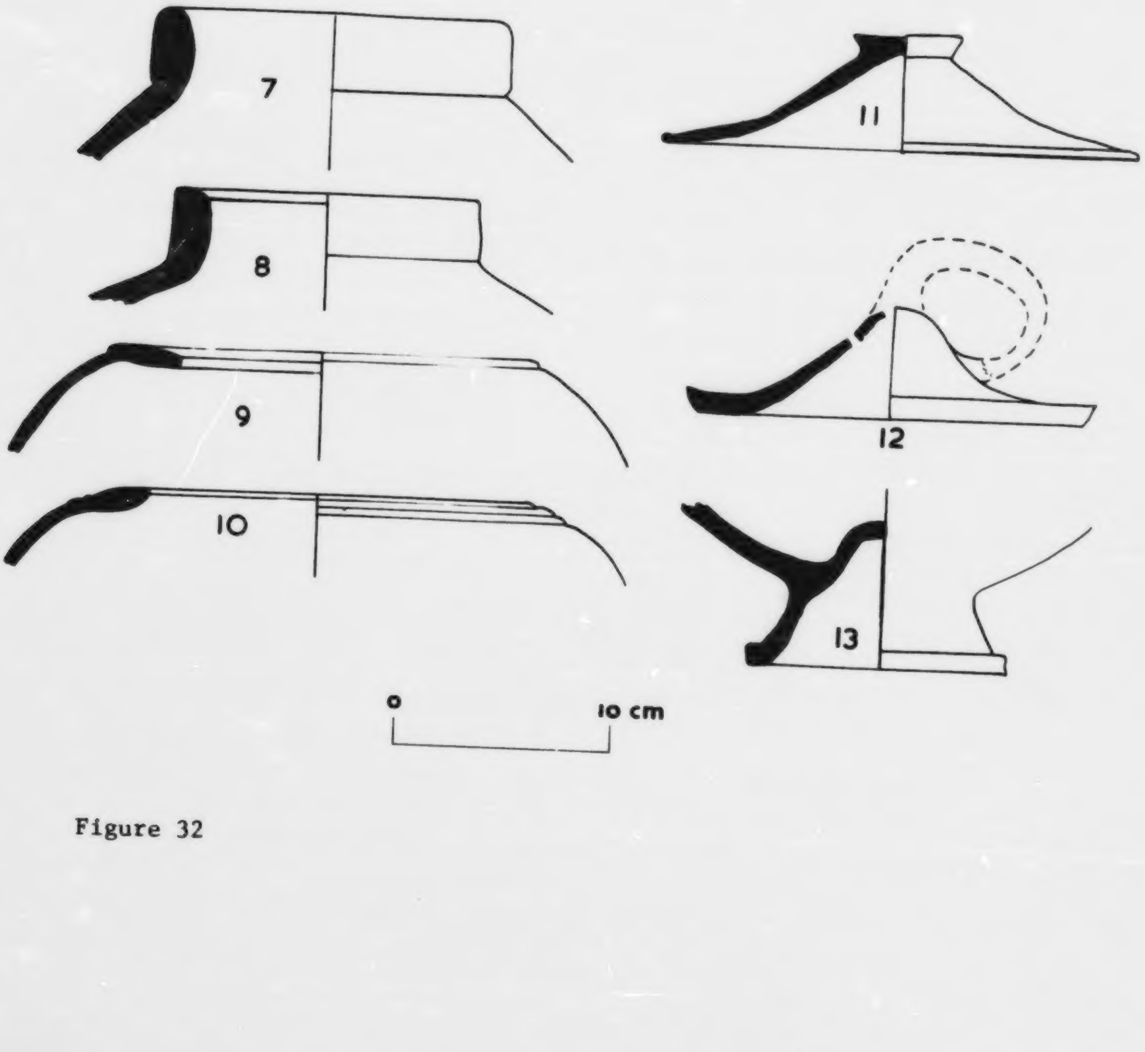

Figure 32

Northern Italian Brown and Black Wares

L14 (Figs. 33-35, Nos. 1-21)

This is a very fine quality ware, the fabric is soft, salmon pink in colour and very sandy, and when unglazed it is rough to the touch. The glaze is usually coloured brown, mostly chestnut brown, but there are light and dark shades of this colour.

Decoration is achieved by trailing black slip over the surface of the vessel under this glaze. There is a wide variety of types mostly of which are illustrated here. These comprise porringers Nos. 1 to 7; No. 8, decorated fluted bowl or basin; No. 9, some form of storage jar or other type of vessel with a locking lid device; Nos. 10 and 11, plates; No. 12, coffee pots; No. 13, mugs; No. 14 small decorative storage jars, with handles. Nos. 15 to 19 a wide variety of forms of rectangular fluted and ridged dishes Nos. 20 and 21 and soup tureens with reversible lids decorated on each face. The handles have a moulded raised pattern.

Such vessels are now known to have been produced at Albisola, a pottery-making centre situated west of Genoa in Italian Liguria. They

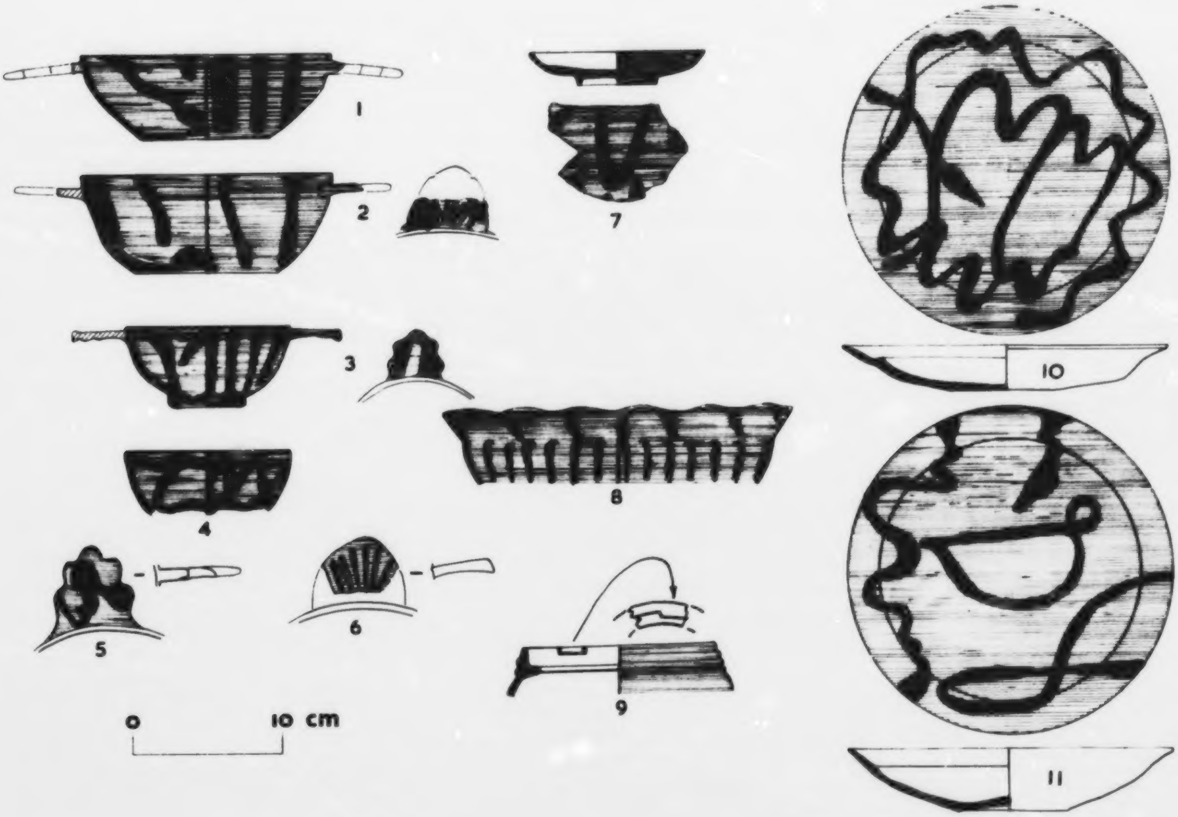

Figure 33

are very commonly found in the south of France and occur in all the archaeological collections of post-medieval pottery to be found there. They are also exhibited in the Musée Fragonard at Grasse, Provence where they are so common as to be considered standard household utensils of the late 18th and 19th centuries. A late 18th-century date is given to these wares in the south of France and in Italy, but there is no reason why they could not extend into the middle of the 18th century as illustrated by finds from this site and also from Fort Beauséjour. They occur also in material found in the wreck of the *Machault* (1760) in which they were thought to be part of the crew's effects.

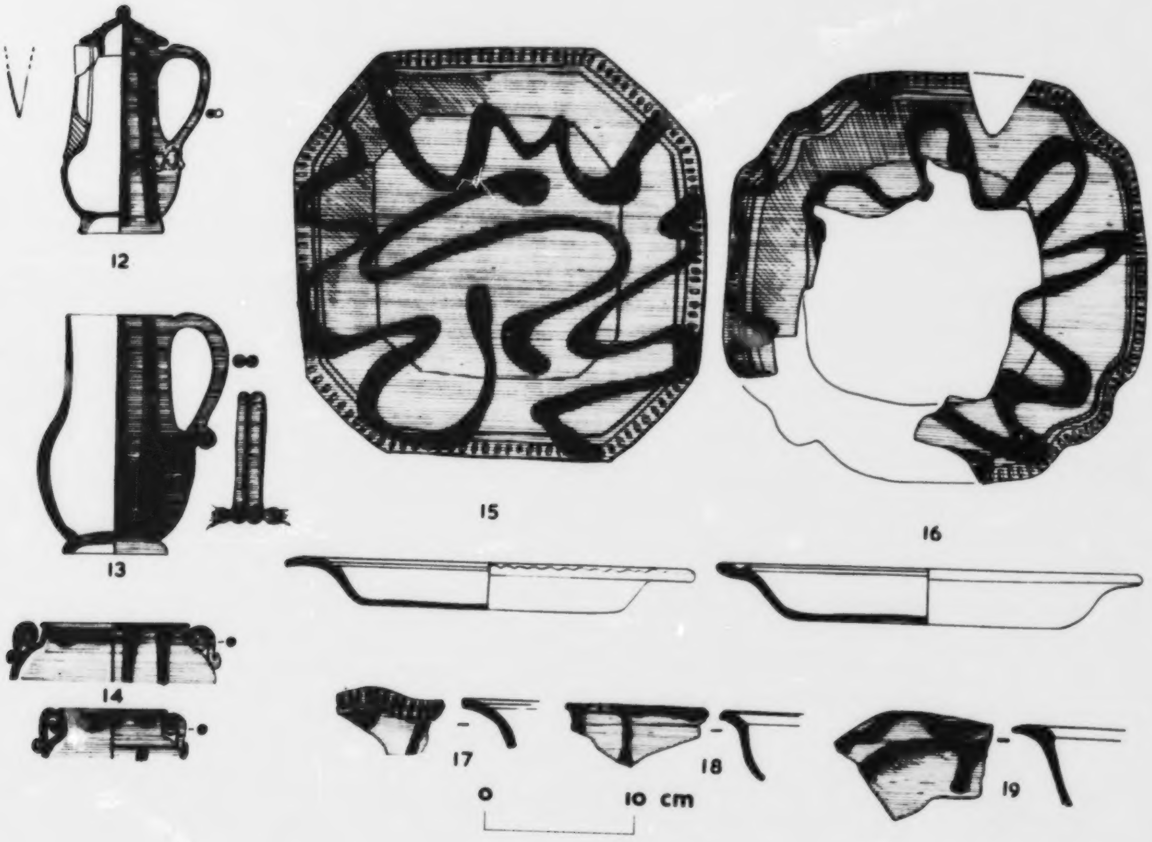

Figure 34

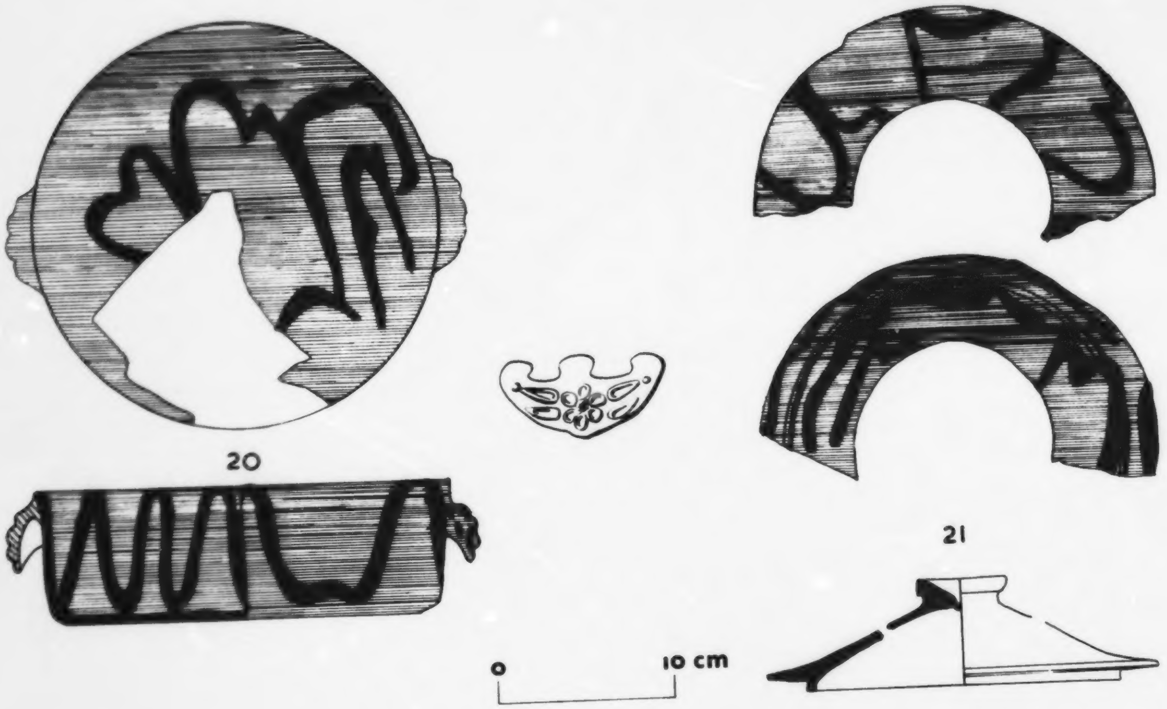

Figure 35

THE ANGLO-AMERICAN WARES

"It is only rarely that we find a jar wholly glazed in green" (L.W. Watkins 1968:7).

Although these wares are not wholly European in character, there is a European foundation to them, as illustrated in the form, fabric, glaze and colours, and in the way they were fired.

There is only one reliable and extensive source of information on the origins of the New England ceramic products from the beginning of the European occupation into the 19th century and that is "Early New England Potters and Their Wares" by Laura Woodside Watkins (1968). The work lacks sufficient illustrative material to provide adequate references at such a great distance from the source, but provides a wealth of written information; present-day American archaeologists seem to prefer the mystery of English fine tablewares to their own products, which is regrettable as these wares are academically interesting, showing a marked development out of the mainstream of English influence. The length of time of the Louisbourg deposit is short, a mere 43 years (1715-58), but in that short period European ceramics underwent immense changes whereas the local wares developed much more slowly.

The range of Anglo-American wares is limited in the variety of wares. The principal vessels are large rimless jars, shallow sharp-angled dishes, semicircular bowls, and "inverted-omega" profile chamber pots with moulded handles. These forms are commonplace and repetitive throughout the collection in both fine and coarse wares. Such similarity points to both a relatively short period of exportation and a tight geographical area of origin. Most of the parallels drawn from Watkins are from either Massachusetts or Connecticut; there is no reference to pottery being exported from Virginia, New York State, or New Brunswick.

Watkins' illustrations are confined to black and white photographs, mainly of complete vessels of 19th-century date; there are no line drawings of an archaeological standard. Only the verbal description of the wares is relevant. We are told that "plain red or brown surfaces were frequently daubed with black or brown splashes applied with the fingers or with the brush" or "in the course of burning the darker colour blends into the background or flows freely down the sides of the vessel," and that "this type of decoration appears more frequently in Connecticut than in Northern New England." Also, "decoration by single or multiple incising or combing also occurs."

Watkins believes that slip decoration was generally practised throughout New England before A.D. 1800. She believes that it is more commonly found in Connecticut than elsewhere because it was made there later. Quantities of such slipwares have been found in various places such as Newburyport, Danvers, Whately and Weston, Massachusetts, and Dorset, Vermont. Other decorative motifs and methods noticed are that multiple quill decoration occurs in both Connecticut and Pennsylvania, whereas single quill decoration only occurs in northern New England. The application of slip with a brush is uncommon and such specimens are considered to be "early." Other early characteristics appear to be dots or washes of green.

The one common denominator of all the Anglo-American pottery found in the excavations at Louisbourg is its tendency to laminate; no wares from any other souce found at this site do this. This tendency seems to have occurred during firing or transportation and in some instances before disposal. This emphasizes that the source for these wares must be from some particular place rather than from a widespread area of New England for it must be related to the nature of the clay, its preparation, or its method of firing. Ranking high in the description of centres of production in this period is Charleston, near Boston, Massachusetts. This large potting centre was destroyed by the British in 1775. There are references to production as early as 1709. Watkins says that "by the middle of the 18th century Charleston pottery was known far and wide" and that "the heyday of the production of these kilns was 1740-1755." The method of selling from Charleston was by boat from along the coast - "North to Casco Bay and south to the Connecticut River" and, in 1744 John Parke of Charleston advertises "red and yellow ware of diverse sorts." Although other potting centres also flourished in the same years and their sources are mentioned below, it is obvious that Charleston and nearby Concorde were the most important centres of production during the years that Louisbourg was operative. Bradstreet, an English officer stationed at Canso in 1725, stated that "so many vessels from Nova Scotia and New England are in Louisbourg Harbour that two sheep may be bought there for the price of one at Canso" (McLennan 1969: 56). In 1738, 42 New England ships are recorded as having visited Louisbourg. In 1739 the Cape Breton coal mines exported extensively to New England. It was only after 1744 that there was an official embargo between New England and Louisbourg. The quantity of Anglo-American wares is considerable in relation to the collections as a whole and is enough to suggest that it was regularly imported into Louisbourg and that the quantities found here are not just the result of the two campaigns alone. However, it would seem that some are late 18th or early 19th century in date and therefore not related to the period of French occupation but to the subsequent civilian reoccupation of the area.

Description of the Wares

L15 Mottled Wares (Fig. 36, Nos. 1, 2)

These are of a smooth, hard and dense fabric, light red when oxydised, slate grey when reduced. The measure of both the oxydisation and the reduction indicates that these processes were apparently deliberate and controlled. The fibre is rich in iron, therefore, the glaze is light brown when oxydised and apple green when reduced. The vessels are decorated by sprinkling iron powder onto the glaze at random spots on the vessel. This then bleeds into the glaze, running as the glaze fluxes to give a mottled effect. On oxydised pieces this is brown, on reduced pieces it is a greenish purple.

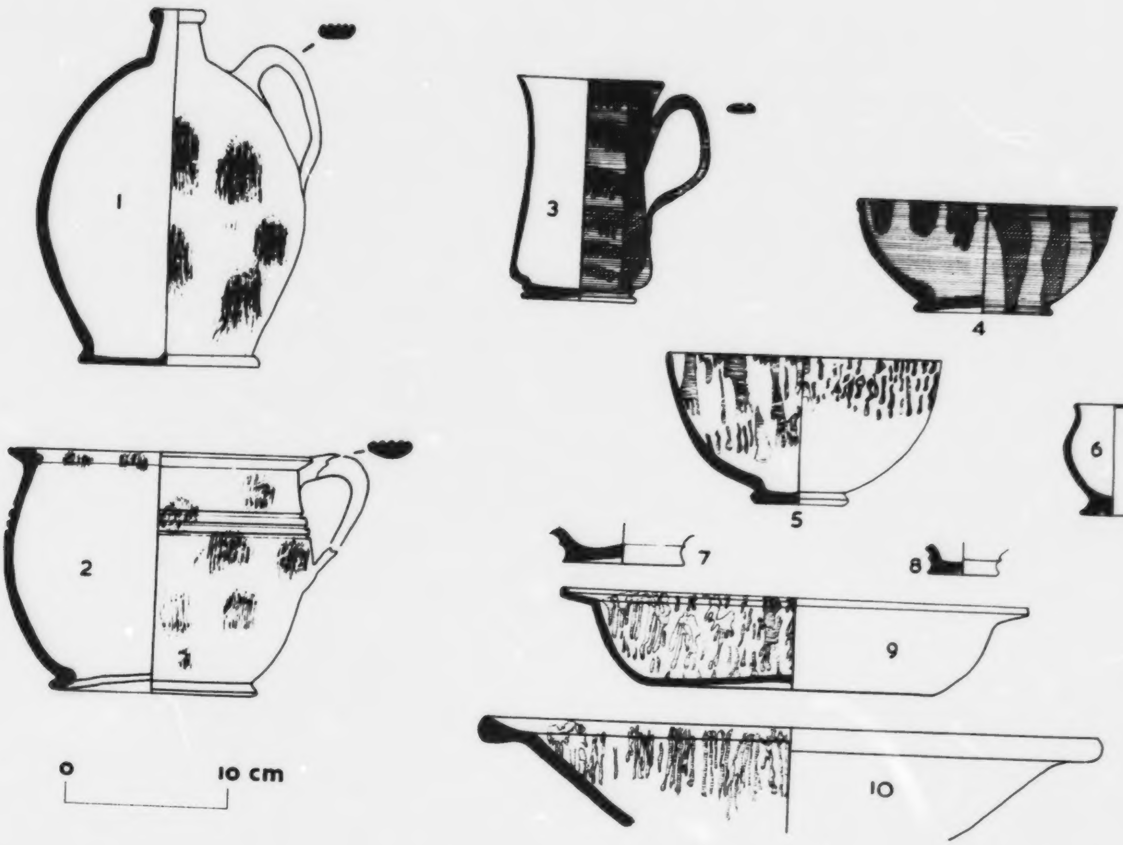

Figure 36

Watkins shows the bottle to be a form of vessel common to the New England manufacturers, (Watkins 1968: Pl. 13, 37, 40, 41, 65, 73, and in stoneware 89, 101) and they are commonly decorated this way. These are shown to the best advantage by Watkins (19: Pl. 41) thought to come from Merrimacport, Massachusetts, and considered by her to be probably 18th century in date. Another group of vessels with similar decoration from the same place is attributed to the Pecker Pottery (1784-1820). However, these vessels are not exact parallels as they do not have the same handle profile set on the side as in No. 1. Where this does occur (Watkins 1968: Pl. 13) the vessels are thought to be made during the first half of the 18th century. The chamber pot, No. 2, exhibits the principal characteristics of the Anglo-American style as an "inverted omega profile" with three shoulder grooves and a handle made in a mould.

L16 Fine Red Ware (Fig. 36, Nos. 3, 4)

This ware is of a very hard, red fabric with laminar cracks, unglazed portions firing to a dull red colour. The glaze has a dark brown colour with minute white speckles in it. Decorated with brush-applied swags of iron-rich slip that has run when fresh and bled when fluxed. These vessels in form and quality very closely parallel the examples, Figure 36, Nos. 8, 5 and 10; these are examples of the finest quality when considered in relationship to the rest of the Anglo-American importation. There is a serious attempt to copy English forms, the thin-walled waisted tankard with its markedly cranked profile handle and the bowl with its double-reeded rim can be found in English fine earthenwares and stonewares of the period. There is, in the Victoria and Albert Museum, London, a tankard of not dissimilar style to No. 3 also with a brown glaze and a black slip decoration under, but when examined closely it is not from the same source. The English example is light and fine, the glaze bears characteristics commoner to the northeast of England than the northeast of America. The bowl with its reeded top comes nearest to that in Watkins (1968: Pl. 19) which illustrates the pottery of Daniel Bayley of Newburyport, Massachusetts, (1764-99) although not exactly paralleling them. Watkins shows that this use of dark brown colouring is a commonplace that goes on well into the middle of the 19th-century.

L17 Internally White-Slipped, Dark Red Earthenware with Mottled Black Patterns, Glazed on the Back (Fig. 36, Nos. 5-8)

Comprising bowls and at least one chamber pot, the group is distinctive on two counts. Firstly it is glazed to a rich brown colour on the outside right down to the footring, secondly the colour scheme is much more marked than L18. The glaze is clear and the iron slip or wash is black rather than purple. These vessels have been decorated with greater speed and with less precision than in the others treated in a similar way. The white slip has been swilled around the inside of the pot, the black colour was applied by dripping from a brush rather that sponging. These drips also occur on the outside of the vessels as a black fleck.

L18 Internally White-Slipped Hard, Dark Red Earthenware with Mottled Purple Glaze, Unglazed on the Outside (Fig. 36, Nos. 9-10)

Fragments of three or more vessels included one nearly complete dish. The ware is dense and very hard indeed, almost a stoneware. It has been white-slipped all over the inside, the slip terminating just on the edge of the rim, the glaze likewise, except when a little has run down the outside. The inside has a sponge-applied decoration of iron-rich substance which has bled giving a mottled, purple to dark brown pattern. In some instances this can also have a light brown colour and in others the colour can be very dark indeed. There is no guarantee that because these pieces are not glazed on the back they do not belong with the other three examples, Nos. 5 to 8. It is possible that geological examination may provide an answer to both the difference and the source. These two forms of vessel do not appear in Watkins. A vessel with identical characteristics occurs in the post-medieval finds at Portsmouth, (Portsmouth City Museum), England - it cannot be placed in an English or European context and could, therefore, be Anglo-American.

L19 Coarse Slip-Decorated Brown Ware (Fig. 37, Nos. 1-6)

These are fragments from chamber pots in a hard, sandy, dull red-coloured fabric, glazed inside and out, the glaze colour varies from brown to black. They are decorated inside and out with white slip applied with the brush and also trailed. This slip has a marked characteristic in that it was inadequately mixed and in application varies from very thin to very thick, rough and lumpy as if the decoration had started with an unstirred pot of slip beginning with too much water and ending with too little. The trailed slip is pronounced and can be felt with the fingers. The quality of the glazing is also as poor, it gives a dirty and speckled pale yellow colour. In all other respects the pot is good, well-made and well-balanced. The handle appears to be of a moulded type.

The use of broad brushed strokes to apply the slip is paralleled in Watkins by the products of Daniel Bayley of Newburyport, Massachusetts, (1764-99) (Watkins 1968: Pl. 23, 25), but this is too late a date for our purpose and only substantiates the fact that such decorative treatments were known, commonplace and traditional. Watkins says, in fact, that broad brush strokes are uncommon and usually an indication of an "early" date.

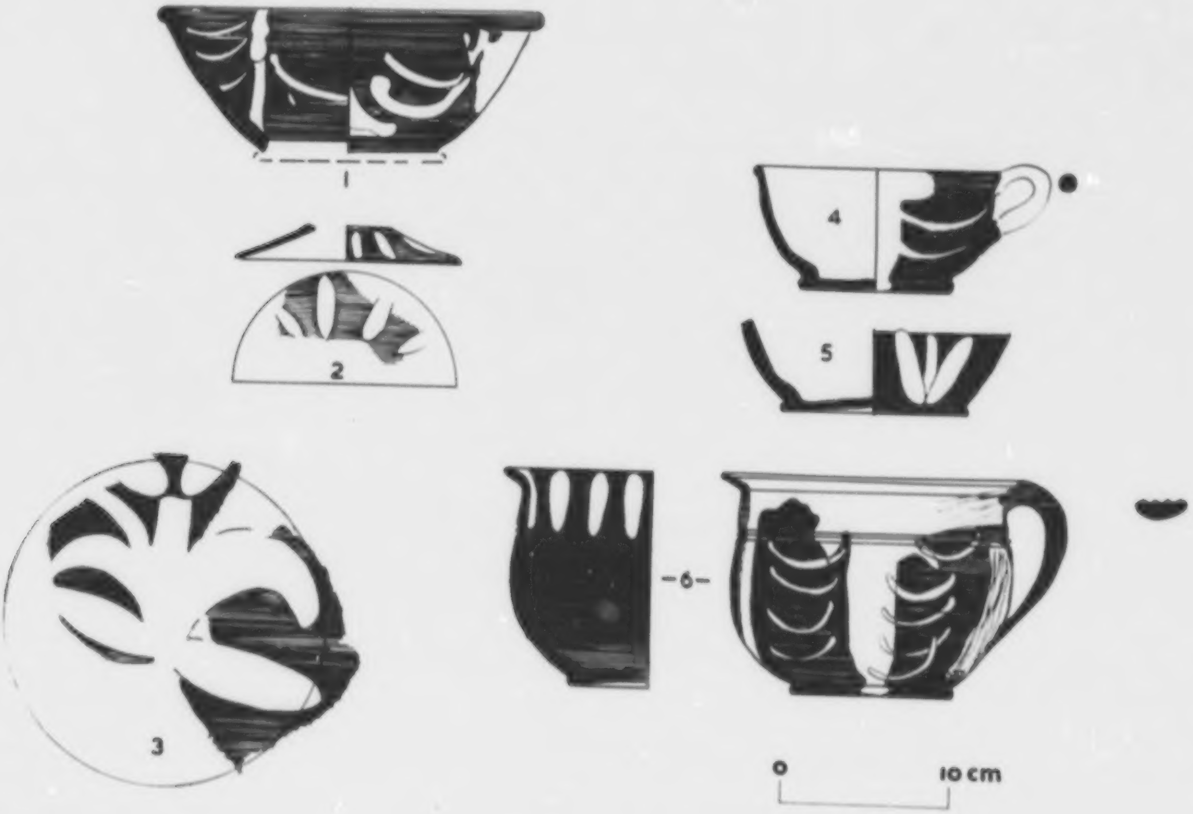

Figure 37

L20 Vessels Decorated with White Slip Under a Dark Brown Glaze (Figs. 38, 39, Nos. 1-5)

These vessels are of a very hard, dense fabric, light red in colour, brown-glazed. This is a rich brown on the pans, but on the tankards, Nos. 2 and 5, the brown colour is patchy with lighter colours. All vessels have trailed slip decoration. The method of trailing is identical in each case and appears to be by the same hand - the principal reasons for grouping these vessels together. The area slipped shows as yellow under the dark brown glaze. No. 2 is further embellished with thin black slip scrolls. This tankard has stripes of slip down the handle. It was a "second" badly distorted during the firing and the handle still has a large piece of packing clay stuck to it. Another tankard, No. 5, exists with a trailed slip pattern in white, the ware is reduced producing an olive green colour to the glaze. The dish, No. 3, is very fragmentary, but certainly from the same source as No. 1 as can be seen from the method of manufacture, the grooving and the rim profile.

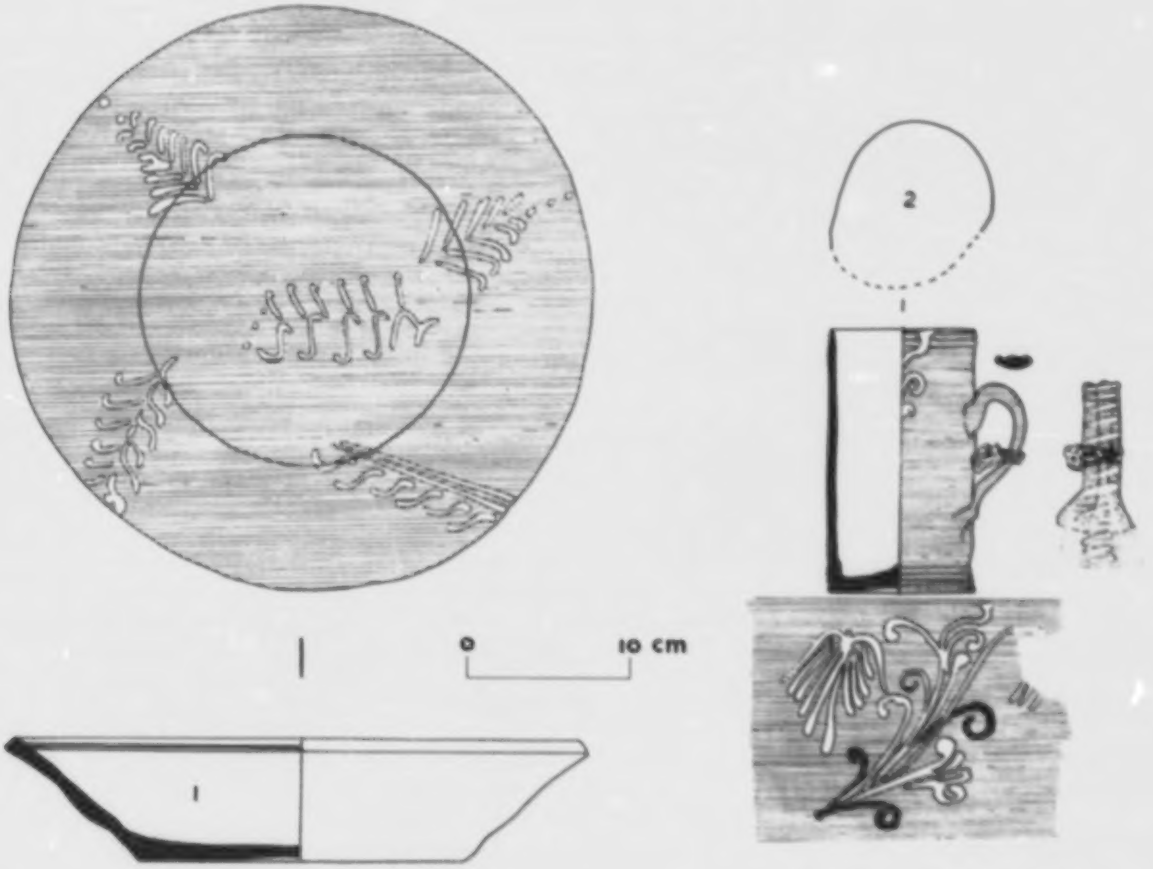

Figure 38

Not illustrated is a group of over-fired examples of this type of ware, which would normally be considered as rejects; it is not unknown for imported pottery groups to contain a percentage of wasted or second-class wares. Several of these vessels have fragments of decorations similar to type L20. It is assumed that these all belong to this ware. Examination of the sherds suggest that they all came from the same firing. The decorative range of this particular group includes rough, brushed slip decoration under green glaze with pale cream or yellow patterns, floral in one case (a tulip?) and geometric in other cases.

The whole group is well within the range of the better examples of New England slipwares, paralleled in Watkins by the piece dated to 1764 (1968: Pl. 26) which has a black and white slip line decoration and with its trailed triangular strokes. The jug, No. 5, is similar to Watkins' (1968: Pl. 28). The random wavy slip lines are almost exactly the same pattern.

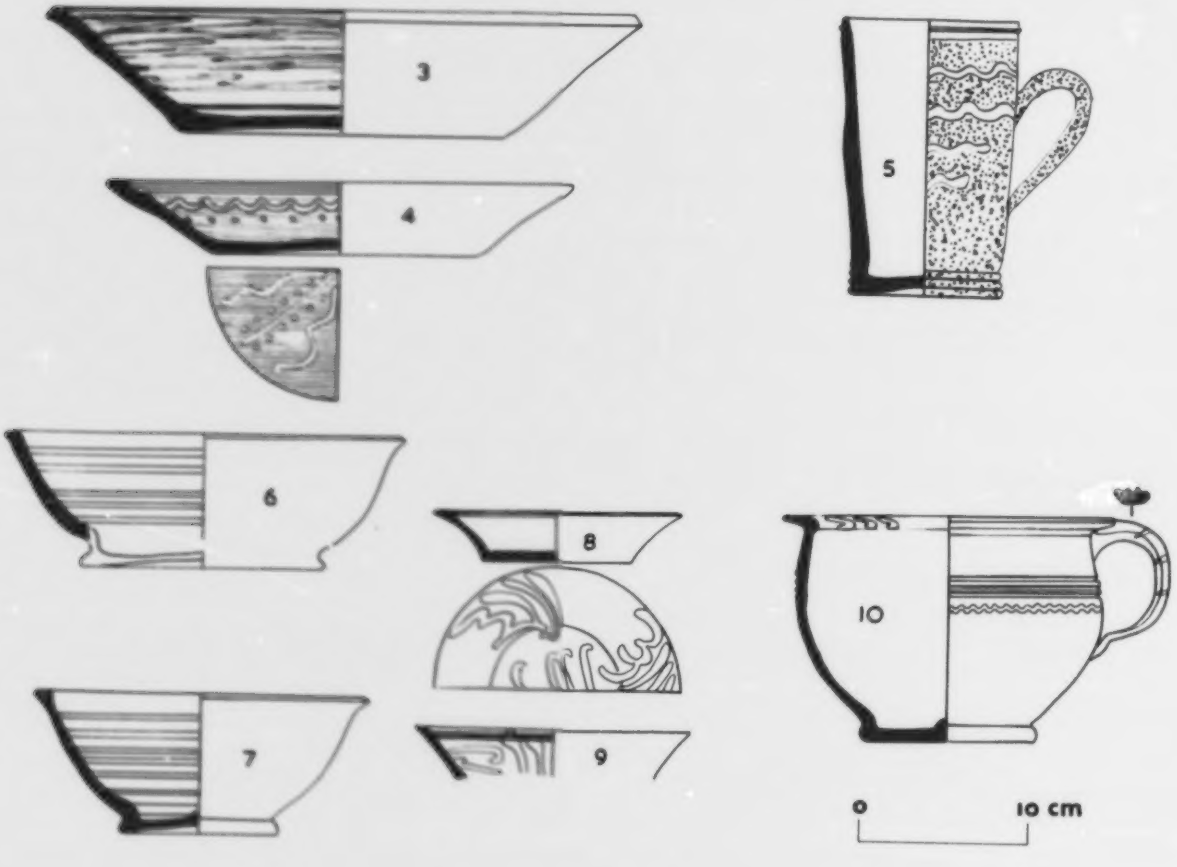

Figure 39

L21 Fine, Close-Textured, Salmon-Red-Coloured Earthenware (Fig. 39, Nos. 6-10)

Well-potted, smooth to the touch, all vessels seen were glazed inside only and decorated with a thin wash of white slip on the wheel, as free-hand brush strokes, or roughly with a brush. In common with some other North American slipwares from this site, the slip has fallen away from the body after burial. The ware has been lead-glazed and fired in a reducing atmosphere to give a very pale iron-green colour range. The use of tripartite scrolled and looped decoration on the walls of bowls with always a similar motif within the base is common to many vessels listed in Watkins and considered by her to come primarily from southeastern Massachusetts (Watkins 1968: Pl. 33, 34, 35). The chamber pot, No. 10, is of similar form to others from New England which have an "inverted omega" profile.

L22 Trailed Slip Bowls (Fig. 40, Nos. 1-3)

Represented by one almost complete and fragments of several other shallow-sided vessels, these are in a distinctive light-weight red earthenware which fires to a dull red colour and glaze. They have been subjected to the same stresses as other New England wares and have spalled badly. The resultant decoration of trailing white slip while the vessel was on the wheel is parallel, horizontal bands of which one on the rim and the central band of the body are overlaid in a wavy line. Slip was then covered in a lead glaze on which was sprinkled a fine dust of copper causing patches of green colour overlaying the lines. The colour ranges through yellow lines, orange body and green patches (these have not always successfully turned green and are quite often black through reduction). Nos. 1 and 2 are thrown bowls and No. 3 is a press-moulded dish. This vessel has had white slip run on the surface through a spout and the vessel then joggled, copper powder added, and the whole glazed. The rim is notched with a roulette which produced wide grooves at an angle around the rim. There are a number of other vessels from this group which are different in form, but in the same fabric, they also "flake" and "spall" in the same way.

Watkins shows this ware (1968: 8) and says that such notched-edged plates as well as oval or rectangular platters with elaborate trailings and combings of black, white and green slip are found in Connecticut and Massachusetts although she considers that they were not made in these states, which is odd in view of the preponderance of other wares which she says originate there.

L23 Four Fragments of a Soft Red Earthenware with White Trailed Slip Design and a Dark Brown Glaze (Fig. 40, Nos. 4-7)

The significant characteristics of this group are the glaze colours and the rounded backs to the rim. Which are also coloured brown where they have had contact with glaze as a result of stacking in the kiln. The broad band slip pattern on No. 7 is similar to those on Figure 37, Nos. 1-6, although much neater in execution. The double crescents on

No. 4 also occur in that group.

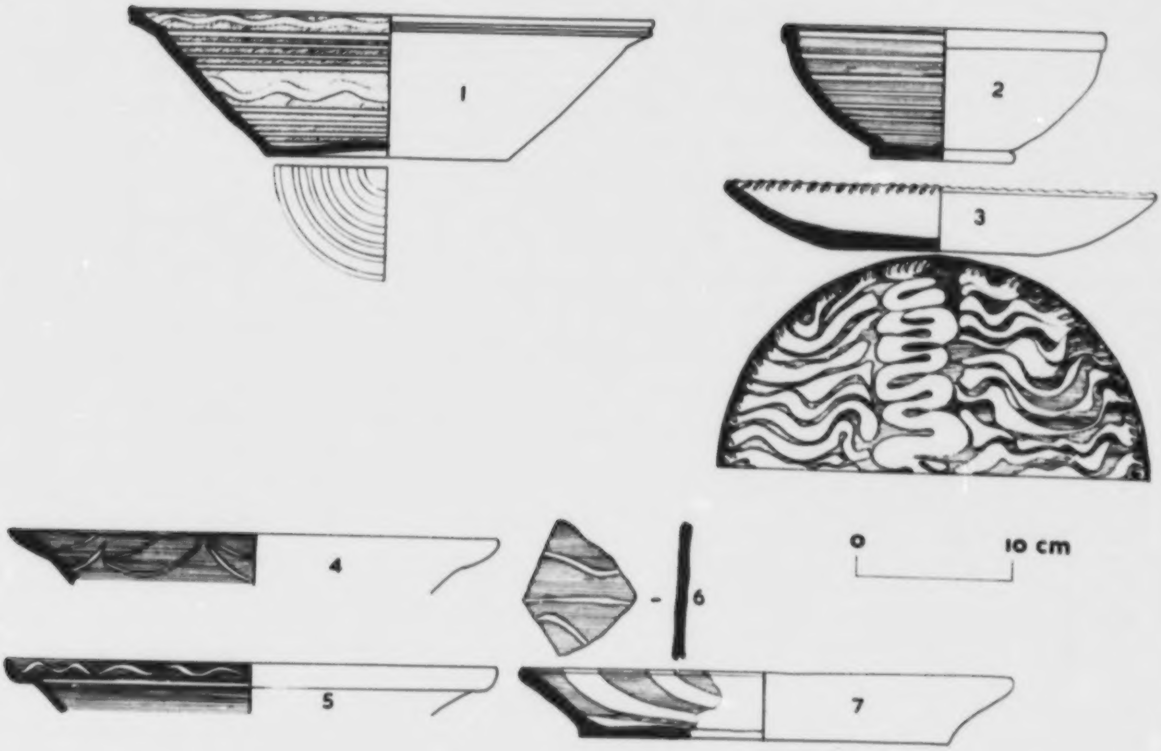

Figure 40

L24 Soft, Red Fabric, Internally Black-Glazed Wares (Fig. 41, Nos. 1-5)

Several hundred sherds make this the major glaze group in the Anglo-American types. These distinctive coarse wares are very coarse in texture with a soft, thin glaze which is always glazed internally. The glaze is carried up to the crest of the rim; it is as shiny as black enamel. Watkins shows that black-stained glazes are as common as brown glazes, in New England (1968: Pl. 20, 23, 25, 27, etc.). The forms of Nos. 1 and 2, epitomize the Anglo-American type of jar and bowl seen in other groups found at Louisbourg. No. 1 is an example of several similar examples found in a well at the *terreplein*.

L25 Internal White-Slipped Hard Dark Red Earthenwares, Otherwise Undecorated, Unglazed Outside (Fig. 41, Nos. 6 and 7)

The ware is dense and contains minute white specks. The unglazed and unslipped colour of the wares is a rich mahogany-red. The slip is carried to the inside edge of the vessel and the glaze just over the edge. Although insufficient remains to show the shape of the base of No. 6, base fragments do have pronounced footrings. This and other examples had been repaired in antiquity. The identity of the origin of these pieces poses a problem. It is patently obvious from Watkins that all-over or internally white-slipped vessels were commonly manufactured in New England (1968: Pl. 13, 16, 17, 20, 29, 40). However, similar wares were produced in vast numbers on the banks of the rivers Tyne and Wear in the northeast of England (Brears 1973). Little or no work has been done on these English wares, but they can be seen in a wide area throughout Scandinavia, Northern Germany, the Channel Islands and the whole of the littoral of the British Isles. The white slip with its sponged iron-rich decoration occurs there in quantities as it does more or less in exactly the same style in North America. At this time it is only possible to say that the Anglo-American and the English examples should be contemporary and that most of what is found in Louisbourg is probably Anglo-American although some might be English. The date range in England and the United States appears to be late 18th and well into the 19th century; therefore, such wares could be from post-occupation deposits.

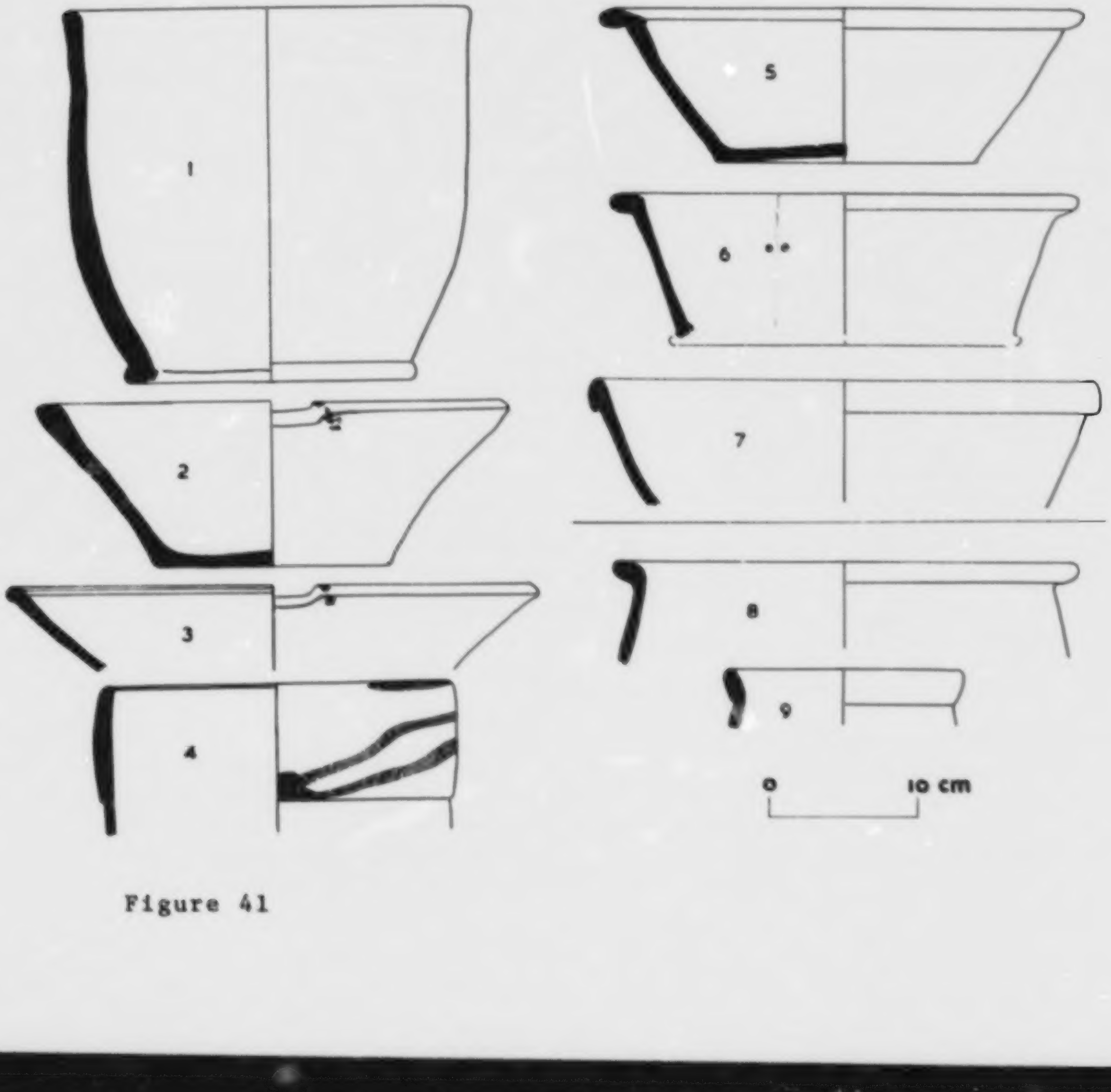

Figure 41

L26 Internal White-Slipped Hard Dark Red Earthenware, Undecorated, Glazed Outside (Fig. 41, Nos. 8, 9)

The fabric is not as hard or as dense or dark as L26. It does not contain white specks and when it is glazed it tends to be red or brown in colour. One fragment that had a horizontal strap handle has a reduced iron-green glaze. The internal glaze colour on these pieces is a creamy yellow. Only two rims occur, both of which are illustrated. The forms are not so English as those above. This group is probably Anglo-American in origin.

L27 Hard, Red, Brown Glazed, Untempered, Vesicular Fabric (Figs. 42, 43, Nos. 1-7)

Coarse throwing, bad handling, erratic firing have produced misshapen wares of irregular thicknesses of glaze and body colours from a medium brown to purple providing evidence of poor firing control. This ware has laminated badly and the glaze has spalled in common with other New England types. The range of the vessels appears to be confined to jars and pans. There is some similarity in forms to the groups in L28. Watkins reporting on the local wares tends to ignore the coarse wares, although she illustrates (1968: Pl. 14) a handled jar which parallels the forms here.

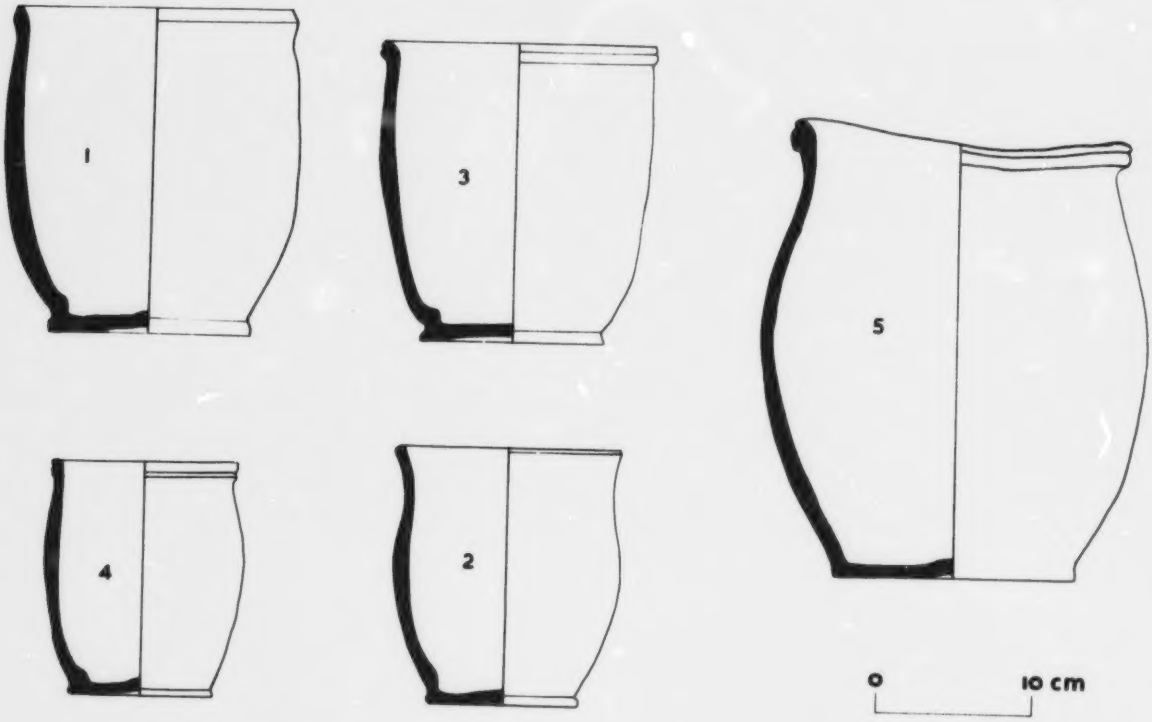

Figure 42

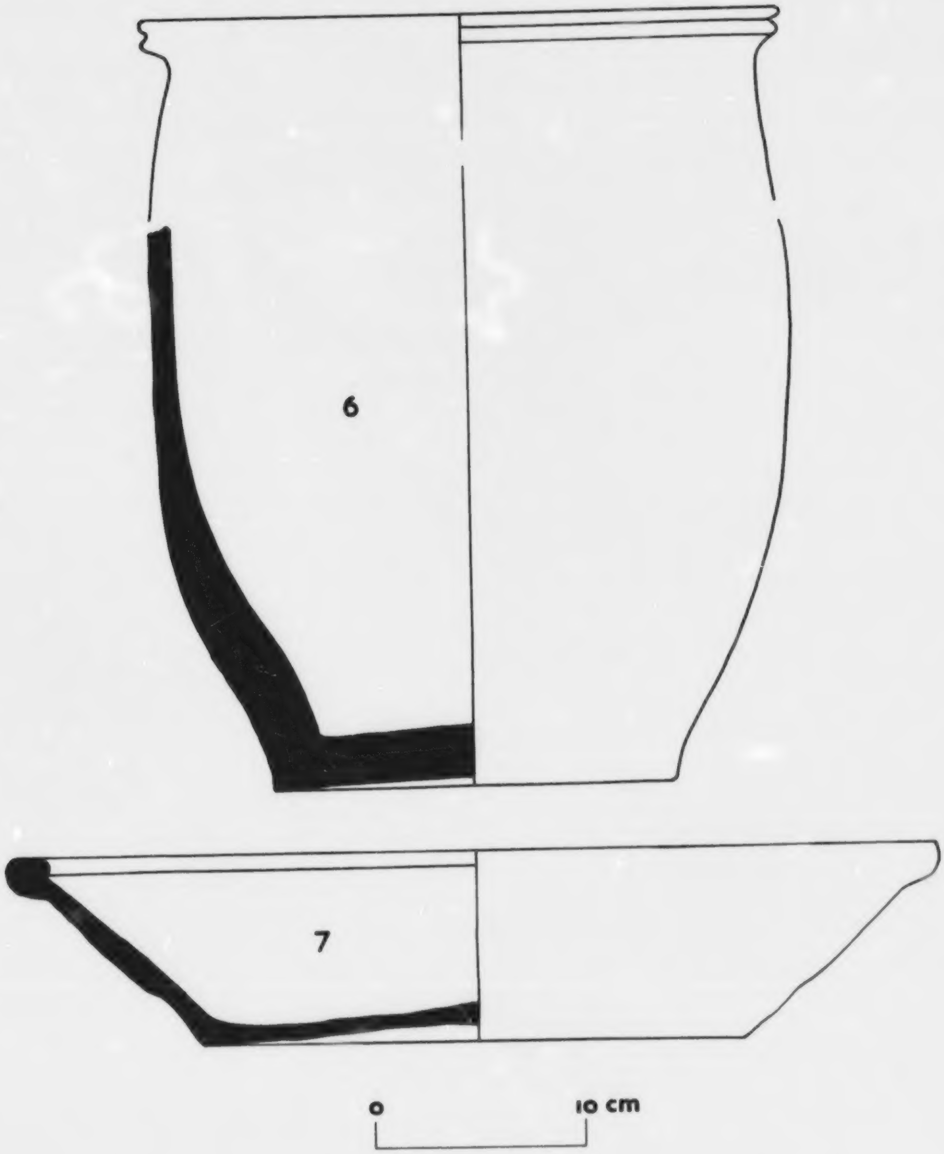

Figure 43

L28 Soft Pink-Red Fabric (Figs. 44, 45, Nos. 1-13)

The ware has laminated, splitting down the centre of the walls of the vessels: the bases have blown both inside and outside. The glaze has also spalled. The glaze is generally light brown in colour with a range from green to red. There are, however, variations in the rim form and in the quality of some pieces, which suggests that there is probably more than one lot in this group. The quantity of the material is insufficient to make a true identification.

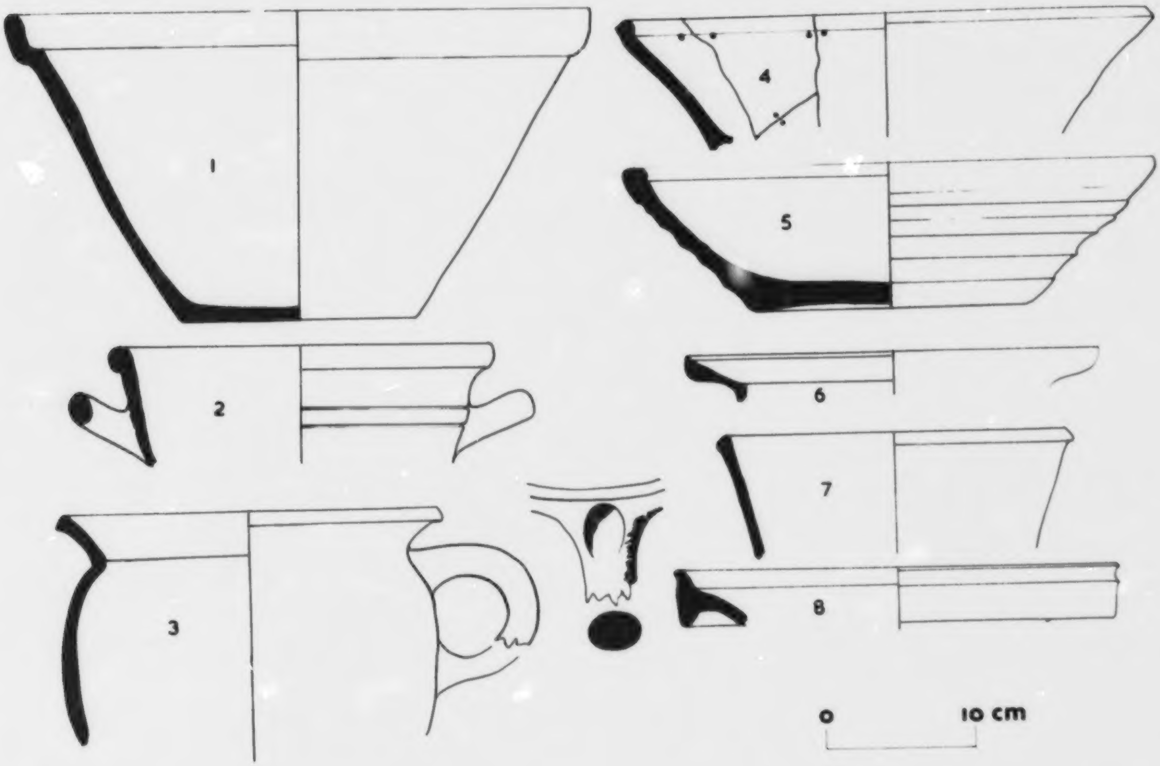

Figure 44

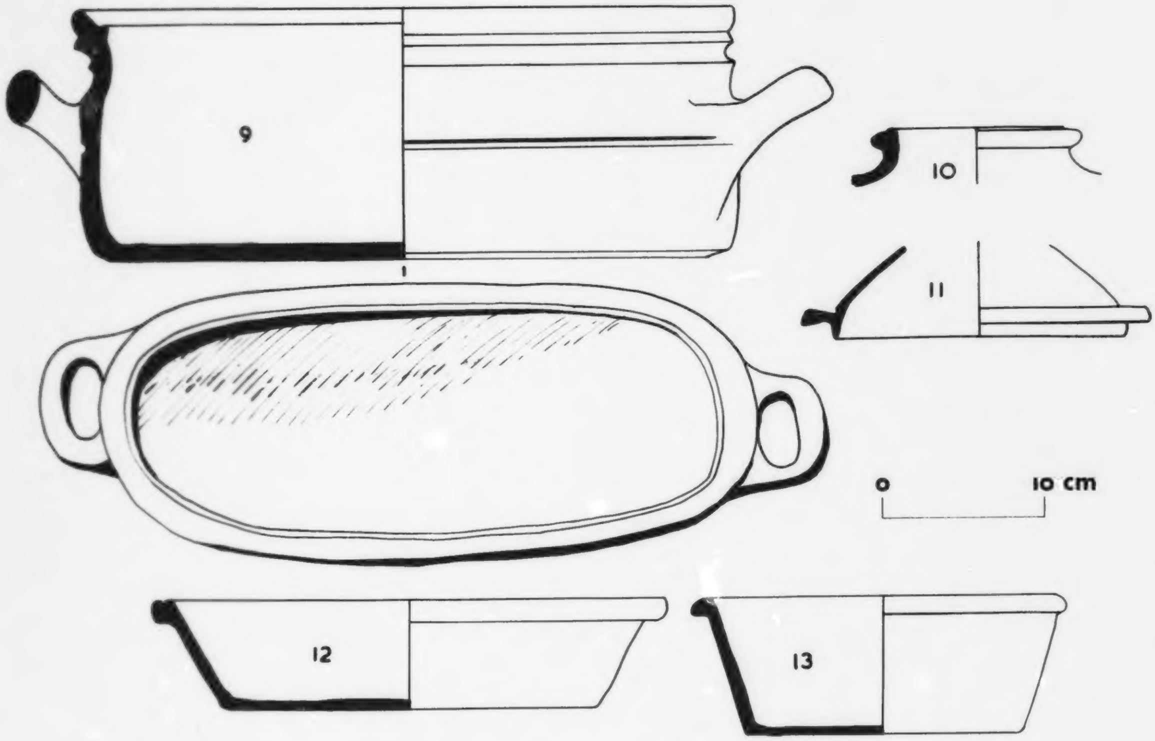
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Figure 45

L29 (Fig. 46, No. 1)

This is of a very dark red fabric covered with a dense speckled brown glaze similar to L17 or L18. This is not English. It is exceedingly heavy for its size. At some time the neck and handle have been broken off and the edges of the neck and the stub of the handle rubbed down to make them smooth.

L30 (Fig. 46, No. 2)

This hard, brown earthenware has internal patchy brown glaze. The exterior is decorated with turned, wavy and straight horizontal grooves, a very heavy pot. This is in the tradition and style of L27, but not from that group.

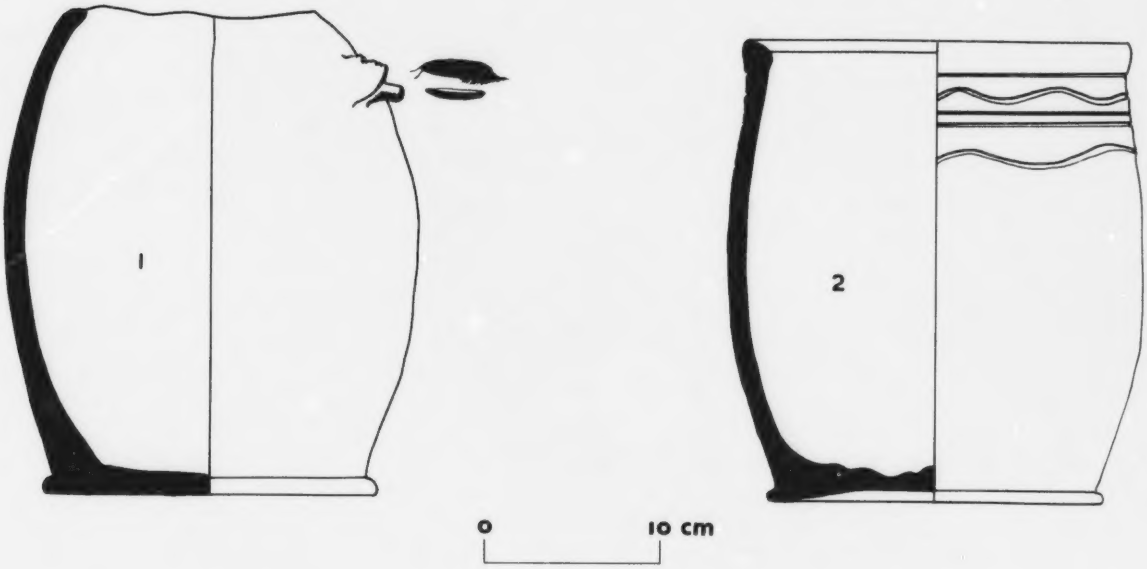


Figure 46

L31 Unglazed or Partially Glazed Red Earthenware (Figs. 47, 48, Nos. 1-10)

This is soft earthenware which can have a sandy texture, but appears mainly to be of a very fine untempered and unglazed ware similar to modern ceramic plant pot ware. The colour of the ware is red but it would appear that under certain firing conditions the clay fires to a white finish. The glaze colour is light brown although when reduced it turns a lime green colour and is frequently pitted. Some of the vessels are glazed only round the inside of the rim as are the jars in Nos. 5, 6, and 7. There are similarities amongst the wares, for instance Nos. 1 and 9 have the same rim form and Nos. 5 and 6 have the same rim form. The varieties are too great to call this a group. No. 2 is probably an

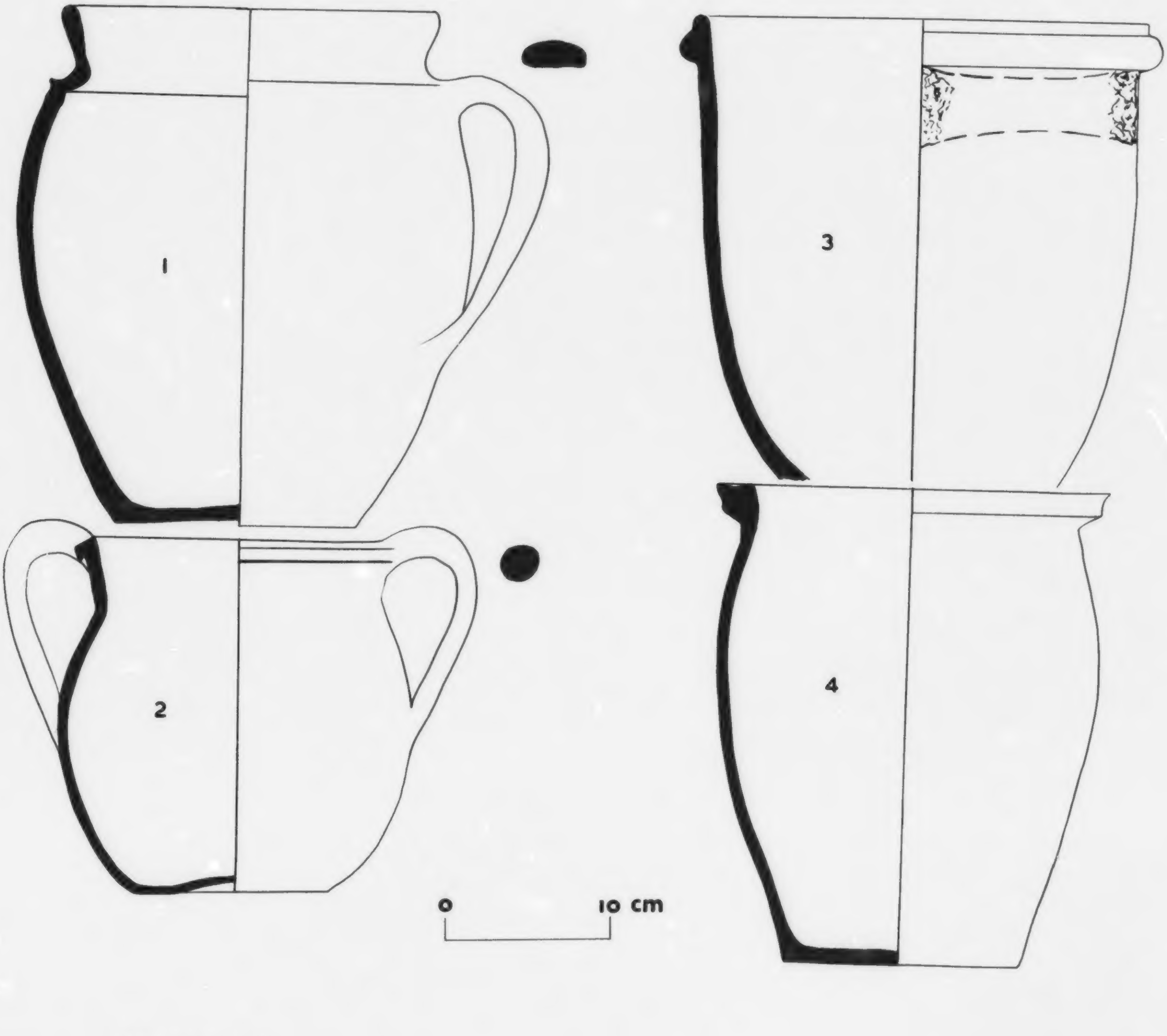


Figure 47

outsider of different source and origin to the rest and probably a rare instance of a southwestern French type, in a dark red fabric, whereas the rest may be Anglo-American in style as is indicated particularly by the jars with their angled rims. It is suggested that this group needs to be looked at again in the light of further discoveries of material from Louisbourg.

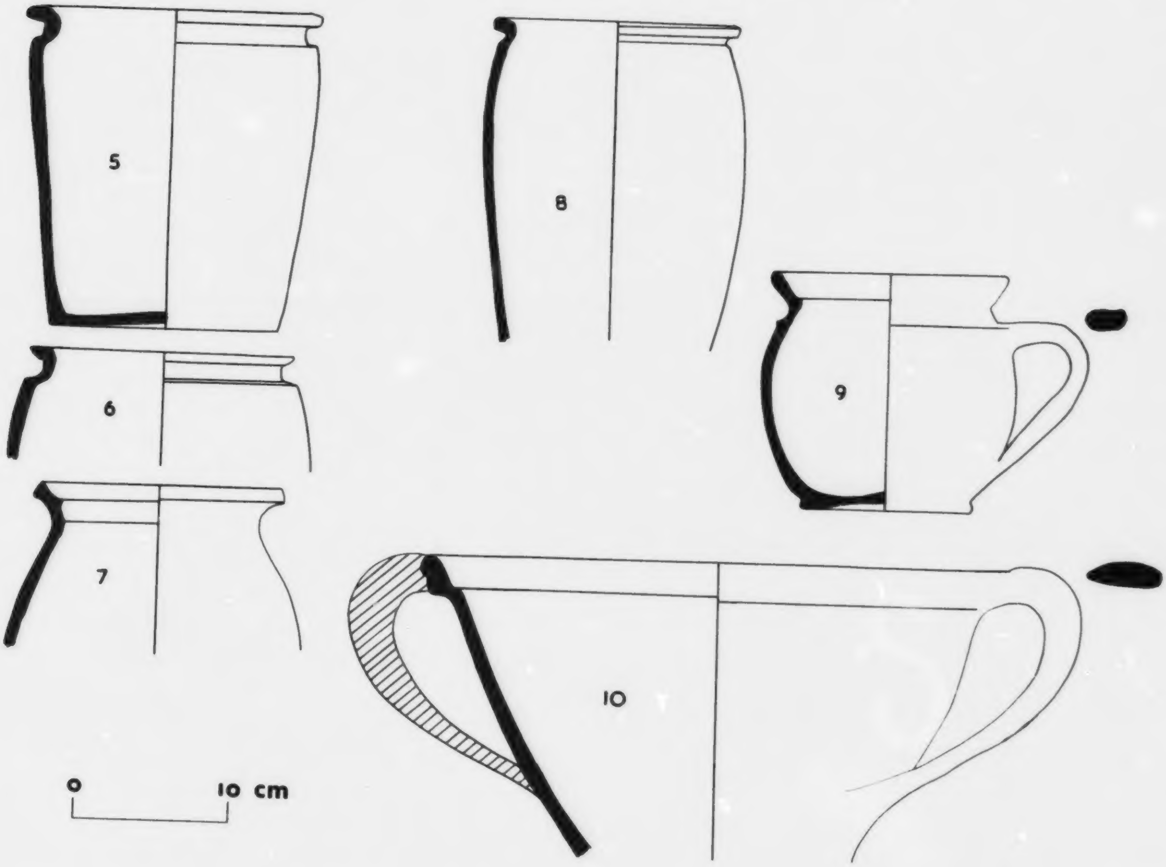


Figure 48

English Wares

L32 Buckley Ware (Fig. 49, Nos. 1-5)

These five illustrated examples are all the Buckley ware so far excavated at Louisbourg in a mixed red and yellow fabric dried hard; the unglazed colour is dark red. The glaze is shiny black and lustrous. This ware is decorated with trailed white slip as in No. 5. These are in every respect examples of the products of the kilns from Buckley, North Wales (Barton 1956) and it is remarkable that there are so few fragments as these wares are commonplace in America (Hume 1968). It is probable that these few examples were shipped to Louisbourg during one of the two periods of British occupation.

L33 North Devon Sgraffito (Fig. 49, No. 6)

This one small sherd from a plate of North Devon Sgraffito ware is the only example of its kind on the site - hard red fabric with white slip cut through to make the pattern and covered with a yellow glaze.

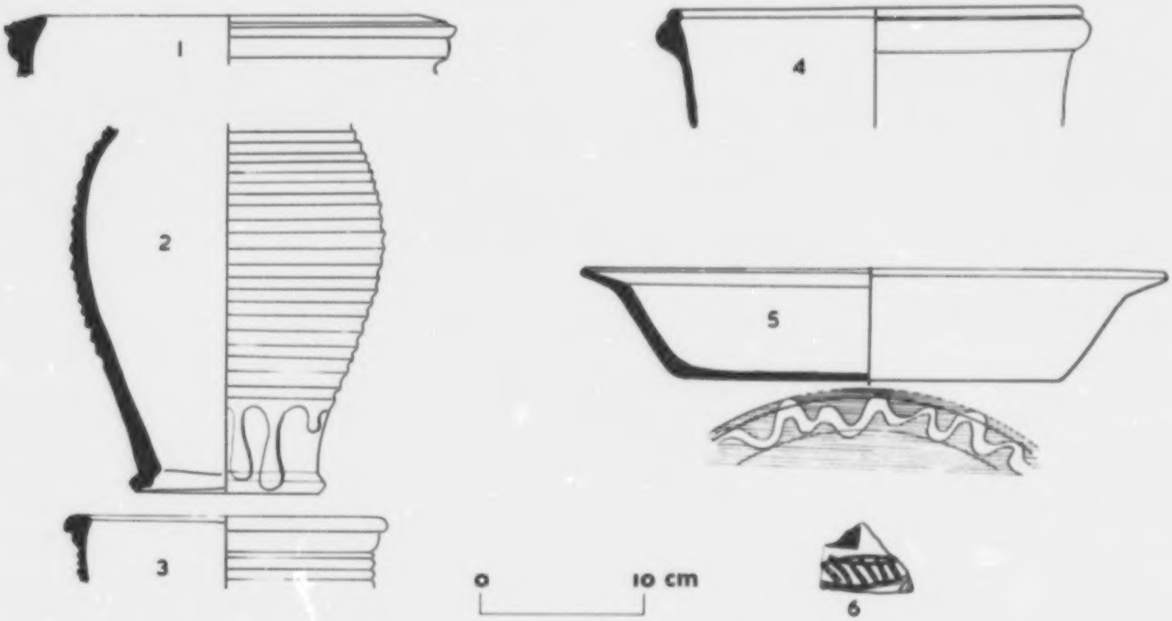


Figure 49

L34 Southeast Dorset Types (Fig. 50, Nos. 1-5)

These are five examples of nearly complete vessels in a slightly sandy, deliberately reduced grey or bluish-pink fabric. On the outside of the vessels the unglazed colour is buff to dark grey. The glaze is thin and even. It is glazed internally only and reduced to an olive green colour. Iron on the body shows as minute specks on the surface. The ware is well-thrown and is not fettled. The type comprises dishes, bowls and chamber pots. The handles of the chamber pots are slightly oval with, in some instances, slight indentation at the base as seen on No. 3. These products are commonly found on the central area of the south coast of England and have been identified as being the products of the kilns of Fareham (Barton 1969). This ware was commonly discovered at the excavations at Oyster Street, Portsmouth, and in subsequent excavations in that city, and they are also recognisable in Southhampton in large numbers. Recent work in the town of Poole, Dorset, has produced considerable quantities of similar wares. It is this last collection which has raised the question mark over the source of such vessels. Their origins were attributed to Fareham, Hampshire, because there is a documentation of pottery manufacture in that area from the Middle Ages through to the 19th century. There is also commonly found

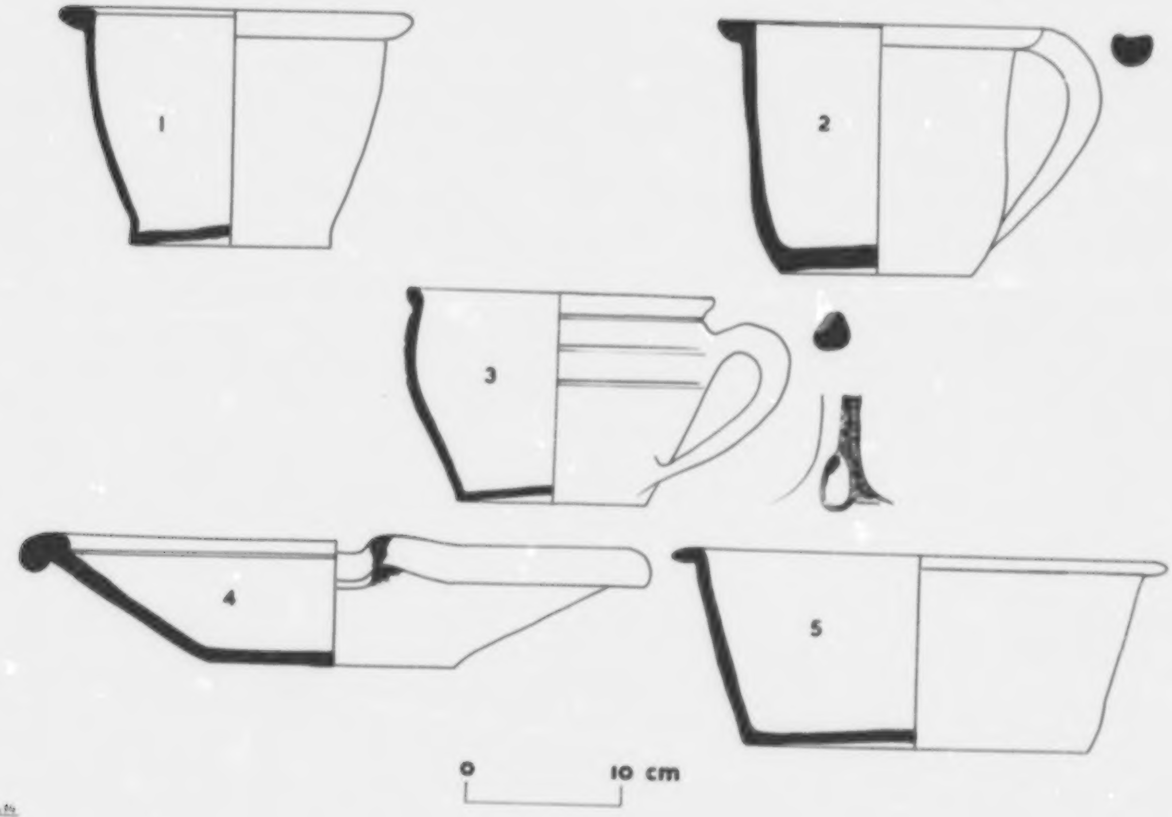


Figure 50

in this area extant pottery of the 19th century which has been attributed to the Fareham kilns. However, only one waste heap has been investigated and that on the banks of Fareham Creek. This waste heap could have occurred through dumping of ballast in a ship visiting Fareham or could be the result of pottery working activities as it is situated on a clay bed. The tradition of producing wares in a creamy buff colour is strong in Poole where such types were produced in the suburb of Hamworthy. Similar wares were also produced in Verwood and at other sites in southeast Dorset. Here the clay always fires to a white or yellowish hue. There is plenty of evidence that there was large-scale pottery manufacture continuing in Poole through the 17th, 18th and 19th centuries and pottery is still produced there today (but now of an entirely different calibre). Therefore, a question mark should be raised over the actual source of these wares. The area of usage lies between Poole and Portsmouth where they are in common currency during the 18th century and we know that the civil port of Poole and the naval port of Portsmouth exported supplies to the West Indies and to the American colonies.

Miscellaneous and Unprovenanced Wares

All these wares are in the absolute minority represented by a few fragments of each vessel or at the most one particular vessel. They have not been readily assimilated into the other groups and their origins are not certain.

The vessels in this section form two main groups of which the first 14 examples are probably all French, although it has not been possible to locate these geographically so far, whereas those in the second group, with the exception of Nos. 20 and 24, are Spanish or Hispano-American in origin. Both the Listers (1969) and Goggin (1950) have shown that there was a substantial production of similar wares on the coast of the Gulf of Mexico and in other parts of the Caribbean Sea. A close inspection by both Mr. Mallet and Mr. Charleston of the Victoria and Albert Museum, London, specialists in these particular wares, have failed to place these particular pieces to known sources in Spain. Although this in itself means little, the question of an alternative source must be posed. Other two outstanding items, No. 23, is an Albarello which appears to be an Italian rather than a Spanish product and the ginger jar is southeast Asian in origin rather than Chinese.

L35 (Fig. 51, Nos. 1-14)

Nos. 1-6 - white/buff-coloured hard smooth fabric, no tempering, a green- or yellow-coloured glaze. The rims of these dishes are crimped and the vessels stamped with a variety of patterns. The edges of the handles of the porringers are notched as in No. 6.

Nos. 7-8 - two plates in a hard light red slightly sandy fabric with a light brown/olive green coloured lead glaze. A distinctive characteristic is the concentric wire marks made when cutting the plates off the wheel.

Nos. 9-10 - two similar jugs in a sandy pink to white fabric with black and white inclusions which feels rough to the touch. They have flanged lips and pulled handles with 3 grooves. One vessel has a plain lead all-over glaze with a golden colour to it.

No. 11 - fragments from a porringer in a soft white fabric with a dull pale green glaze. The remains of a strap handle and also of three feet, each one fastened with an indentation.

No. 12 - a dish of fine quality, hard white fabric with a buff external colour when fire unglazed. It is glazed with an opaque flesh/beige colour decorated with a trailed wavy band and dots of blue/green slip between parallel bands of red slip.

No. 13 - a small porringer with a folded trifoliate handle in a flaky white fabric with some sandy inclusions. The glaze is thin pale apple green on the outside, badly stained on the inside.

No. 14 - soft pink-buff-fabric earthenware with a raised copper-filled green trailed slip pattern under a thin pale orange green glaze. The green slip has a quality which caused it to bubble during the firing.

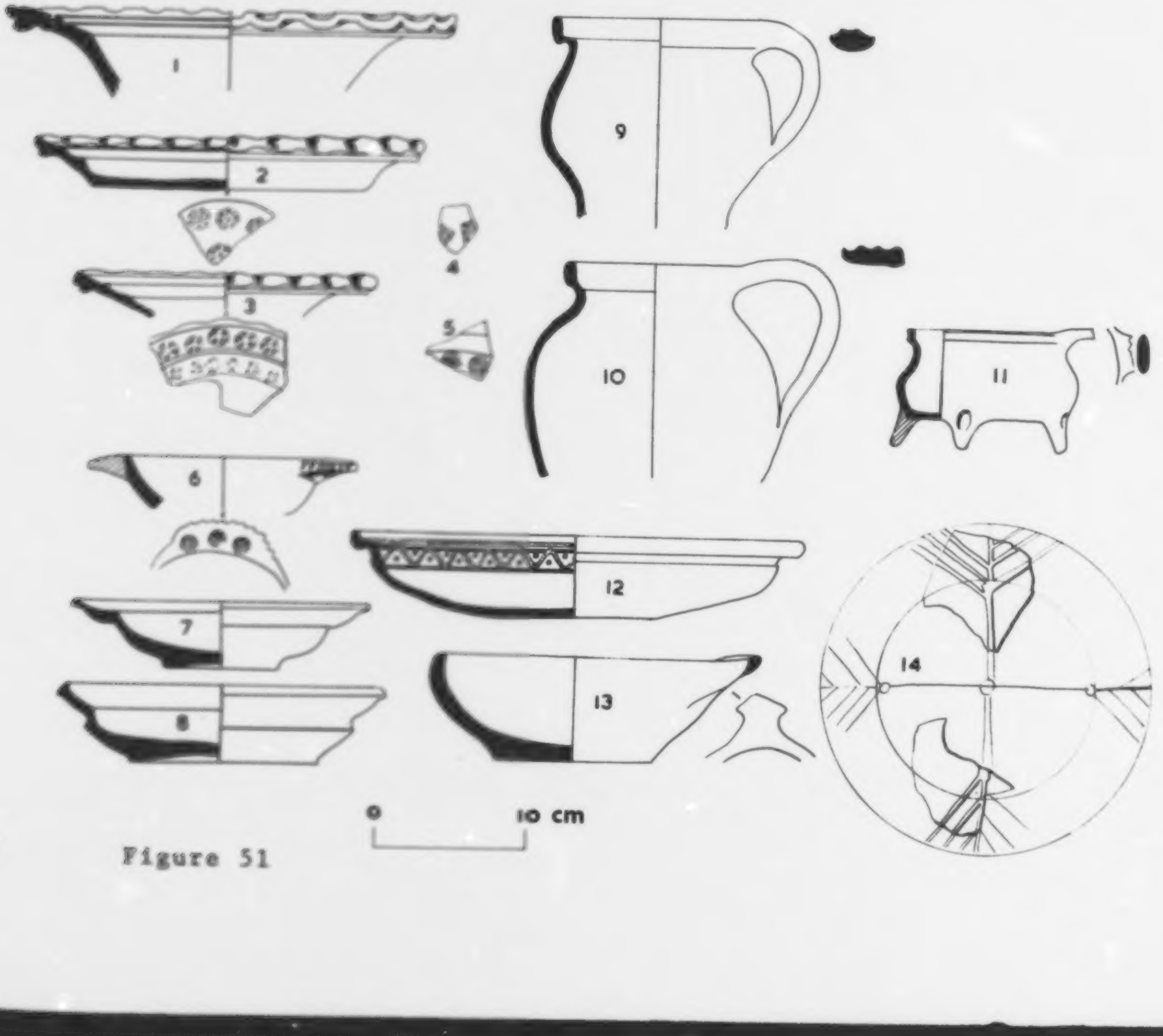


Figure 51

L36 (Fig. 52, Nos. 15-22)

No. 15 - two handles of porringers, both in a dark brown fabric quite soft in texture and both with badly stained opaque tin glazes. One is decorated with white dots.

No. 16 - fragments of a dish in a soft and brittle light-brown-coloured fabric. The interior of the vessel has been washed first in white slip, brushed with red slip and then glazed with an opaque tin glaze on which a pattern of loops has been painted. The glaze is badly damaged and the pattern barely discernible. There appears to be copper in the glaze.

Nos. 17 & 18 - two fragments of copper lustre decoration. The bowl, No. 17, alone shows the pattern, which is almost lost though faintly discernible on No. 18.

No. 19 - a bowl in a very soft pale buff fabric which is slightly vesicular in character decorated internally only with an opaque creamy-coloured tin glaze and with one horizontal and two wavy bands of pale copper green slip. There is a small fragment of another vessel of this type.

No. 20 - a moulded handle only from a double-handled, long-necked jar, in a hard pure white coloured fabric. The outline of the vessel has been achieved from the markings on the inside of the handle-fixing points.

No. 21 - This is a complete example of a small jar with extruded and pinched handles, totally unglazed in a very fine white smooth chalky fabric, thrown extremely thin. A similar vessel was found at Port Royal, Jamaica (Mayes 1972).

No. 22 - a large pan in a soft red vesicular fabric covered with a thin tin glaze and decorated with swags of copper green slip decoration in the shape of commas. The fabric and the glaze are similar to Figure 52, No. 19.

L37 (No. 23)

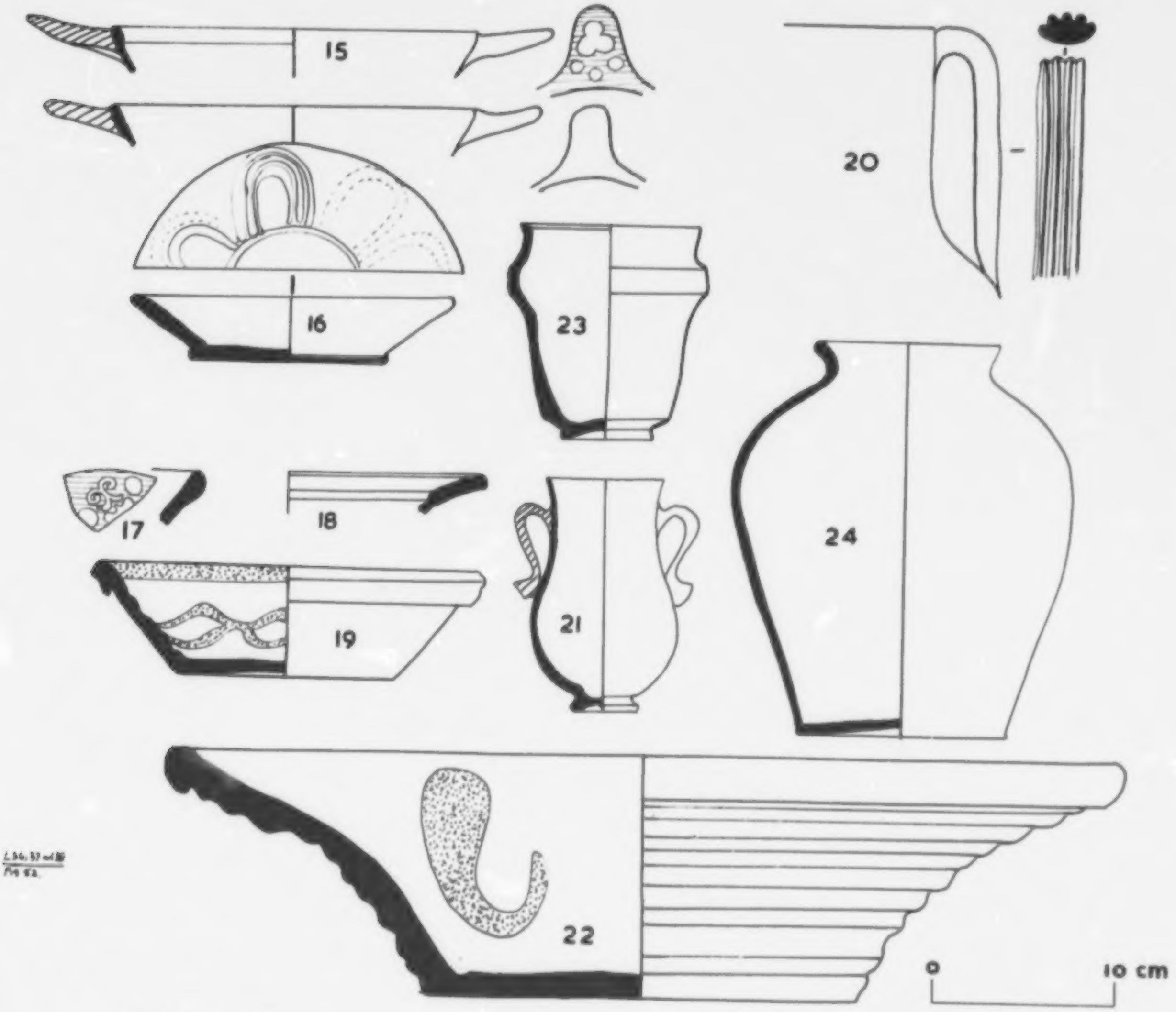
This example is an albarrello which has been very badly burned and the true quality, texture and colour of the fabric has been destroyed. This vessel had a green glaze over a white slip on the outside and a brown glaze on the inside which is a marked indication of the Mediterranean origin.

L38 (No. 24)

This is a celadon-glazed jar in a red soft stoneware. The fabric has a sandwiched structure: the outer layers are dark red, the inner are grey. The ware is glazed inside and outside, round the neck and collar with a pale green (Eau-de-nil) coloured glaze. That around the outside of the neck where it is thickest has a crackle. This vessel has all the characteristics of a southeast Asian Celadon ware and was probably originally a ginger jar.

L39

This is a group of eight sherds insufficient to illustrate adequately. Comprising of tankards, chamber pots and a bowl, in a very hard, dull, dark-buff-coloured fabric of very fine grain with no inclusion but occasional air pockets. White slipped on the exterior on the upper parts only. The slip is creamy, fine and thick, then washed in green, probably touched in places with a sponge or a brush and the whole covered with a good quality glaze to give a creamy light brown and patchy green finish.



L36, 37 and 38
Fig 52.

Figure 52

APPENDIX

Louisbourg Ware Number	Parks Canada Ware Number
L1	CEW 101.1
L2	CEW 11.1
L3	CEW 12.1
L4	CEW 103.1 and 103.2
L5	CEW 104.1
L6	CEW 13.1
L7	CEW 17.2
L8	CEW 106.1
L9	CEW 105.1
L11	CEW 17.1
L12	CEW 102.1
L13	CEW 14.1
L14	CEW 107.1

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GLASSWARE FROM A REPUTED 1745 SIEGE DEBRIS CONTEXT AT THE FORTRESS OF LOUISBOURG

E. Ann Smith

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ABSTRACT

Excavations carried out in 1975 on Lot E, Block 2, of the Fortress of Louisbourg National Historic Park in Nova Scotia, were interpreted at the time as revealing that the duplex built in 1722-23, the Dugas house, was most probably bombarded and within hours consumed by fire during the siege successfully undertaken by New England forces in 1745. Subsequently, the glassware from the specific siege debris context, Event 59, has been analysed in an attempt to assess this interpretation and also to provide an illustrated descriptive catalogue which could be used for intra- and inter-site comparisons. The analysis deals with crossmends, the minimum vessel count, the distribution of vessels within the house, the condition of the artifacts, and information on the date and country of origin of the artifacts. The interpretation of these data concludes that the glassware does not wholly substantiate the archaeologist's interpretation of the context, rather it suggests that although the structure may well have been damaged by bombardment in 1745, it was not destroyed by burning. However, the terminal date for the context, 1745, is probably approximately correct as the data suggest that the artifacts were deposited over a still relatively short period of time during the 1740s after the abandonment of the house just prior to, during or following the bombardment. The illustrated catalogue deals with two classes of glassware present, containers and tableware, and provides detailed descriptive information on the various vessel categories within these classes. The assemblage is of note because of the wide variety of stylistic categories present and also because of the presence of a surprisingly large number of stemware drinking glasses, making the tableware vessels nearly three times more numerous than the container vessels.

Submitted for publication, 1979, by E. Ann Smith, Parks Canada, Halifax.

PREFACE

The Atlantic Regional Office of Parks Canada, recognizing a need for and scarcity of researchers experienced with historic period artifacts, hired the author and two other persons in the summer of 1976 to take part in a three-year training programme in artifact analysis and research, at the satisfactory conclusion of which the "trainees" would assume the duties of artifact researchers for the regional office in Halifax. This training programme was designed and supervised by Material Culture Research, Research Division (Archaeology), National Historic Parks and Sites Branch, Parks Canada, in Ottawa. Each of the trainees was assigned to either the Glass, Ceramics or Metal units and was then trained in the identification, cataloguing, analysis and research of the artifacts falling under the jurisdiction of that unit but with particular emphasis on those types of artifacts found on Atlantic Region sites. In the case of the author, the assigned unit was Glass.

A major part of the training programme was the preparation by each of the trainees of an interpretive report on the artifacts from a regional site. Late in 1976, on the advice of the archaeology section of the Fortress of Louisbourg National Historic Park, the Dugas house, located on Lot E, Block 2, and recently excavated, was chosen as the project site. Because of the organization of the training programme, with each trainee working almost solely with artifacts of one general class of material, the projects were likewise organized along material lines, that is, the artifacts of one material class were studied by a trainee rather than, for example, the artifacts of a functional group, such as containers.

There are a number of people who have contributed substantially toward the preparation and completion of this report. First and foremost, sincere thanks are extended to Olive Jones, head of the Glass Unit, for giving freely of her time, advice and extensive knowledge of glass and for acting as immediate supervisor of the descriptive part of the project. Gratitude is expressed as well to Jean-François Blanchette, formerly of the Ceramics Unit, who acted as overall supervisor of the Dugas artifact projects, and to Peter J. Priess, formerly head of the Metal unit, who initially acted in this capacity. The archaeology section of the Fortress of Louisbourg was most helpful in providing information on the history and archaeology of the site, and in particular, Donald A. Harris, Staff Archaeologist, is thanked.

Thanks are also extended to the following persons: Jane E. Harris, formerly an artifact researcher at the Fortress of Louisbourg, who looked at the Event 59 French blue-green bottle glass; Jeffrey P. Brain, Lower Mississippi Survey, Peabody Museum, Harvard University, who provided information on the "Tunica Treasure" glass artifacts; Sophie Drakich, ceramics trainee for Atlantic Region, who provided information

on the Event 59 ceramics assemblage; Brenda Dunn, formerly Staff Historian at the Fortress of Louisbourg and presently with the Atlantic Regional Office, who provided additional information on the site; and finally, the various members of the Glass Unit in Ottawa from 1976 through to 1979, who consistently and generously gave support and advice.

The author is grateful to the Inspection du Génie, Ministère de la Défense, Paris, for permission to use archival material held in the Archives du Génie, Vincennes.

INTRODUCTION

An extensive programme of research and reconstruction has been carried out at the Fortress of Louisbourg National Historic Park since the early 1960s, when the federal government decided to reconstruct approximately one fifth of the actual fortress as it would have appeared just prior to the 1745 siege. Both the historical and archaeological research necessarily concentrated first on the structural details of the buildings and features slated for reconstruction. In recent years, with the slow-down in construction as that phase of the project nears completion, an emphasis has been placed on research into the activities, customs and material culture of the 18th century inhabitants, so that the furnishings and animators may truly reflect life as it was in Louisbourg.

In 1975, the Dugas house, a domestic site on Lot E, Block 2, was excavated by R. Bruce Council prior to its reconstruction. The archaeological findings suggested that the structure was destroyed by burning as a result of being bombarded during the siege of 1745. One specific context, located throughout the interior of the house and designated Event 59, was interpreted as artifactual and structural debris deposited as the house burned and collapsed. This context, therefore, was of special significance for several reasons. First, it could provide architectural details which pertained to the structure as it was in 1745 and which could aid the physical reconstruction. Second, the archaeologist hypothesized that the Event 59 artifacts represented the more or less intact contents of the house in 1745 and thus important information on the material culture of the occupants could be obtained. Third, he hypothesized that the locations of the artifacts when excavated were approximately where they would have been just prior to the destruction of the house and hence room use and location could be inferred from the artifact distribution. Therefore, because this particular context, Event 59, was of such potential significance to the reconstruction of the Dugas house in particular and to research at Louisbourg in general, it was felt that it would be of use and interest to have the artifacts analysed.

The author's project was originally to be a study of all of the glass artifacts from Event 59, excluding small finds such as beads. Accordingly, the flat glass (window and mirror fragments) was catalogued at the same time as the other glass but it soon became obvious that it was functionally quite different from the other glassware present and that it belonged more properly in studies of the architectural and personal artifacts. Therefore the present report was restricted to a data base made up of the glassware which represented containers, tableware and undiagnostic sherds.

The report consists of interpretive and descriptive analyses of the glassware assemblage from the reputed siege debris context. Because of the restriction to one class of material, glass, the interpretation of the context, particularly the social aspects, was somewhat hampered. Therefore the report has been prepared in an effort to primarily assess the archaeological interpretation of the context and to provide descriptive data which could be readily used in future projects for comparative purposes. Accordingly, it is divided into two sections: Part I, The Context and Analysis of the Glassware, and Part II, A Descriptive Catalogue of the Glassware.

PART I THE CONTEXT AND ANALYSIS OF THE GLASSWARE

HISTORICAL BACKGROUND

The Fortress of Louisbourg was founded by the French in 1713 as a result of the loss of certain colonies to Great Britain under the terms of the Treaty of Utrecht. The new fortress was located near the eastern tip of Isle Royalle (now Cape Breton Island, Nova Scotia) and was to serve as a naval/military base to promote and protect French interests in the area, particularly the fisheries. During the next three decades extensive fortifications were built and an organized town grew up within the walls. The population, numbering several thousand in all, included soldiers, military and naval officers, merchants, craftsmen, and their families. The commercial activities of the town were flourishing as the middle of the century approached but in 1745 New England forces successfully besieged the fortress. The population was transported to France and for the next three years the New Englanders occupied the fortress. Then, late in 1748, it was agreed by the Treaty of Aix-la-Chapelle that Louisbourg be handed back to France by the British. Consequently, many of the former inhabitants returned the following summer to make their homes and livelihoods there once more. This second French occupation lasted but ten years, and in 1758 Louisbourg was again placed under siege and for the second and last time fell to British forces. Once more the population was transported and the fortress occupied by British soliders. In 1760 the defenses were destroyed to prevent another French occupation and by the late 1760s, the British military occupation was essentially over, leaving the fortress nearly deserted.

The Dugas house was located on Lot E* of Block 2 within the town site of Louisbourg (Fig. 1). The lot originally measured 46 *pieds* east-west along Rue Royalle and 60 *pieds* north into the block, but sometime between 1726 and 1734 the south boundary along Rue Royalle was increased to 51 *pieds*, the west boundary was increased to 98 *pieds* and the east boundary was decreased to 48 *pieds*.

The first owner of Lot E was a blacksmith, Dominique Detcheverry, who in the early 1720s erected a house and forge on the interior of the lot. Late in 1722 Detcheverry made an agreement with Joseph Dugas, a carpenter, to build another house, a duplex, on the southern portion of the lot, facing Rue Royalle. This house was finished by 1723 and both men probably took immediate occupancy.

In return for building the duplex, Dugas was ceded the western half of the building, the ground it stood on and a small portion of the yard.

---

* All information on Lot E, Block 2, unless otherwise noted, has been obtained from the Lot E section of the historical report, *Block 2*, written by Brenda Dunn in 1971.

Dugas was also given first option to buy Detcheverry's portion if the latter should decide to sell. The duplex measured 45 *pieds* along Rue Royalle and 24 *pieds* into the block, and was of *charpente* construction with *piquet* fill. Probably a story and a half high, it had two fireplaces, one against each end wall, and it also had a passage or corridor running from the street through to the yard to permit access.

In 1726 Detcheverry rented the first house at the back of the lot to a journeyman locksmith and his half of the duplex, the Dugas house, to a master tailor. The ground floor of the half in question consisted of the passage, a kitchen with a fireplace, and three, small rooms termed "*cabinets*" partitioned off it. On the floor above, there was one good-sized room (*chambre*) plus attic space.

When the leases ran out in 1728, Joseph Dugas became the sole owner of Lot E and probably tore down the first house. By the time of his death in 1733, the duplex had been converted into a single family dwelling. As was the custom, an inventory was taken after Dugas's death and this has provided a description of the rooms and some of the furnishings at that time. There was a large room, probably with a fireplace, in the southeast corner and it appears from the list of furnishings that this room served as the kitchen/living area for the Dugas family. A small room was located in the northeast corner and probably functioned as the children's bedroom. Another small room, probably a pantry, was situated in the southwest corner and in the northwest corner there was a large room, again most likely with a fireplace. This room had some cooking utensils in it but it probably served as the parents' bedroom after the whole house was taken over by Dugas. No passage was mentioned in the inventory so it is probable that it had been blocked off once the lot width had been increased, allowing access to the yard via an alleyway between the house and Lot F to the east. Upstairs there was a room which may have had a fireplace and attic space. Another small room, Dugas's office, may have been located in a ground floor addition off the north wall. The possibility of the construction of additions was mentioned in the 1726 rental agreement and additions off the north wall appear on two plans, one of which is dated 1730 and another not dated.

After Dugas's death, his widow, Marguerite Richard, continued to live in the house with their children until at least 1735. Early in 1736 she married a widower and family friend, Charles St. Etienne de la Tour, and it is possible that they lived in the Dugas house on Lot E until the 1745 siege. At that time their household would have consisted of probably eight people: themselves, plus children from both first marriages and twins from their marriage (Krause 1975).

Unfortunately very little is known about Charles St. Etienne de la Tour. A comparison of his first marriage contract made in 1727 to Joseph Dugas's property inventory taken in 1733, implies that de la Tour was both socially and economically above Dugas. Witnesses at this first wedding included among others, St. Ovide de Brouillan, the governor, and Antoine Sabatier, a member of the Superior Council, while his wife's dowry was 6886 *livres*, considerably more than the value of 5100 *livres* set for Dugas's assessed properties six years later. De la Tour's occupation is unknown but there are transactions recorded

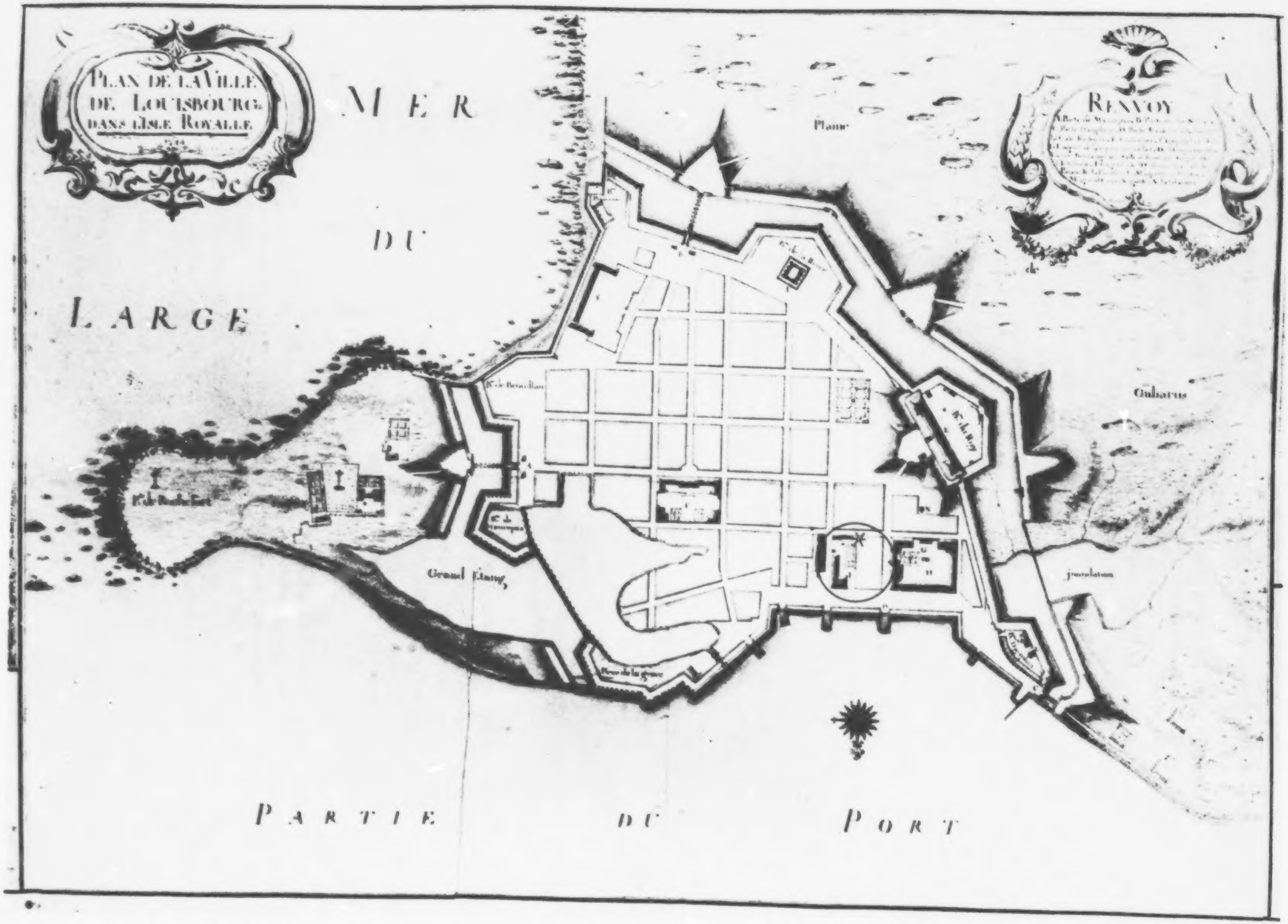
PLAN DE LA VILLE DE LOUISBOURG DANS L'ISLE ROYALLE
RENVOY
MER DU LARGE
PARTIE DU PORT
Grand Etang
Gabarus

Figure 1. "Plan de la Ville de Louisbourg dans l'Isle Royalle, 1744." Block 2 is circled; the location of the Dugas house on Lot E is marked by an asterisk. (Archives du Génie - Vincennes - Article 14 - Louisbourg - Tab. 5: copy on file, Fortress of Louisbourg National Historic Park.)

involving the purchase of one ship and the sale of another in the late 1730s (Dunn 1978).

Both Marguerite Richard and Charles St. Etienne de la Tour appear to have died in France during the New England occupation of Louisbourg from 1745 until 1749. In 1749, Lot E was noted as being the property of Joseph Dugas' heirs, but its ownership for the rest of the second French occupation is uncertain (D. Harris 1979: pers. com.).

Unfortunately Lot E is not shown on any town plans between 1739 and 1745 but plans made after 1745 indicate structural changes to the building. These plans, dated 1746, 1747, 1767 and 1768 disagree on the nature of the changes, particularly on the north-south dimensions of the structure, but the alleyway between the Lot E house and the building at the southwest corner of Lot F was apparently closed so that the two structures abutted. It appears from the plans that the duplex was either converted into or rebuilt as part of the neighbouring *commissaire-ordonnateur*'s stables, along with the Carrerot II structure which abutted on the west. As far as the actual siege of 1745 is concerned, there is no documentary evidence for the destruction of the Dugas house but neighbouring buildings on Blocks 2 and 16 were reported hit (Dunn 1979: pers. com.). In 1767, during the second British occupation, the combined Lots E and F building was being used as a stable or a storehouse. One year later it was described as in "tolerable" repair or "much out of repair."

ARCHAEOLOGICAL BACKGROUND*

The Dugas house was excavated by R. Bruce Council during the 1975 field season. Previous excavations on the site had uncovered the foundations and other associated features of what was interpreted as a stable built over the remains of the Dugas duplex sometime after 1745. A portion of the south footing of this later structure was left in the centre of the Dugas house as an unexcavated baulk by Council, but other than this one partial feature and the two Dugas fireplaces, the entire interior was excavated (D. Harris 1979: pers. com.). At the same time, portions of Rue Royalle immediately to the south and of the backyard immediately to the north were also excavated (Figs. 2 and 3). In this chapter, the features and stratigraphy pertinent to this report will be briefly discussed and then the archaeologist's interpretation of them will be examined.

Features

With regard to the actual construction of the house, Council found that the archaeological data basically confirmed the existing historical data. The exterior measurements of the foundation were 15.15 m (49.7 ft.) east-west by 7.75 m (25.4 ft.) north-south; the footings were dry-laid and constructed largely of fieldstone. Two fireplaces, one against the west wall and the other against the east wall, were located within the structure. Like the footings the fireplace pads were constructed of dry-laid fieldstone, however the upper portions, which would have been at floor level, were made of mortared sandstone.

Additional features of note were sandstone slabs uncovered above a deposit of clay fill (Event 5) on the interior of the house. The majority of these slabs fell along the east-west centre line of the structure (Fig. 2) and it has been suggested by Council that these acted as rests for posts used to brace the floor joists along the centre line, an area of stress. Both these rests and the level of the fireplaces and footings indicated that there was a crawl-space beneath the ground floor throughout the interior of the duplex. Of note as well were two apertures in the north footing which have been interpreted by the archaeologist as drains for getting rid of water in the interior during the construction period.

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* All information in this chapter is taken from Council 1975 unless otherwise noted.

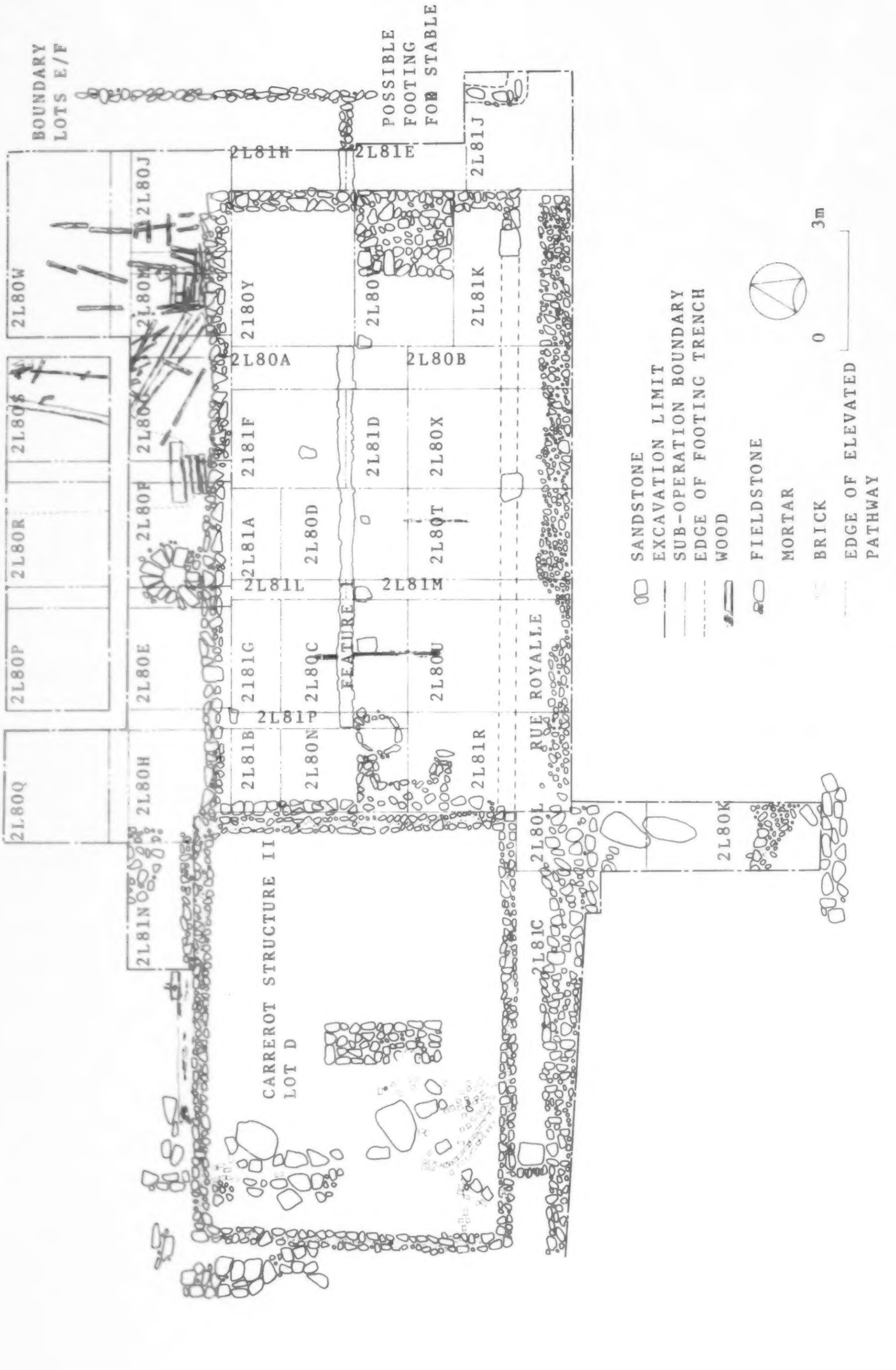
BOUNDARY
LOTS E/F
POSSIBLE
FOOTING
FOR STABLE
2L81H
2L81E
2L81J
2L80J
2L80W
2L80V
2L80S
2L80G
2L80R
2L80F
2L80P
2L80E
2L80Q
2L80H
2L81N
2L80Y
2L80A
2L80B
2L81F
2L81D
2L80X
2L81A
2L80D
2L80T
2L81L
2L81M
2L81G
2L80C
FEATURE
2L80U
2L81P
2L81B
2L80N
2L81R
RUE ROYALLE
2L81K
2L80L
2L80K
2L81C
CARREROT STRUCTURE II
LOT D
SANDSTONE
EXCAVATION LIMIT
SUB-OPERATION BOUNDARY
EDGE OF FOOTING TRENCH
WOOD
FIELDSTONE
MORTAR
BRICK
EDGE OF ELEVATED PATHWAY
0
3m

Figure 2. Site plan of the 1975 Dugas house excavations showing features related to early occupation. This plan represents the base level of the "siege debris" events. (Drawing by S. Epps; 2L-79-102-1a, c.)

The only pre-construction feature on the interior was a shallow, barrel-type well located immediately east of the west fireplace (Fig. 2) and possibly used for gardening purposes during the earliest occupation of the lot. This well was back-filled prior to the construction of the duplex.

Other features relevant to the Dugas house included two collapsed steps and a later, elevated dirt pathway at the rear of the structure leading into the backyard (Fig. 2). Council believes that these provided a way down into the yard from the historically documented passage located in Detcheverry's original half. He has suggested the late 1720s to the mid 1730s as a date of construction for the pathway and, because of the early steps and the probability that even with the pathway new steps still would have been required to reach the entrance to the passage, he feels that this is indicative of foot rather than cart traffic through the passage. It should be pointed out, however, that other than the steps and pathway there was no archaeological evidence for the passage.

Archaeological evidence for the two north additions, shown on only one dated historical plan, was found but only the eastern one was represented to any substantial degree (Fig. 2). On the basis of the historical information Council has suggested that the additions were built probably between 1726 and 1728 and dismantled sometime in late 1730 or 1731; by 1733 a separate *magasin* had been built on the lot. A great deal of debris, interpreted as resulting from the dismantlement of these additions, was found in the yard.

Finally, a stone-lined well was located to the north of the duplex (Figs. 2 and 3) and this has been given a construction date of 1723, after the completion of the duplex itself. Originally in Detcheverry's portion of the yard, it would have belonged to Dugas after 1726 once his share of the yard was increased. It was probably used exclusively by his family as other wells were located in the eastern portion of the yard (D. Harris 1979: pers. com.).

Certain features were encountered which indicated a later change in the structural configuration of the house. First, a fieldstone apron was found built across the east fireplace. Second, and most important, a fieldstone footing (Feature 1) was located along the centre line of the house so that it ran beside the north cheeks of the two fireplaces and then extended east to the southwest corner of Lot F where a stable was located. It is this footing which was only partially excavated by Council and which is shown in Figures 2 and 3. A repointing trench (Event 32) was located along portions of the exterior face of this feature and there was also a rectangular fieldstone pad, most likely a foundation for a chimney, adjoining the footing on the north and near the east end. Third, excavations revealed that sometime after the construction of Feature 1 the south footing of the Dugas house was dismantled by means of a robber's trench (Event 18) dug along the line of the footing. Subsequently, a brick footing was built slightly to the south and as with the north footing, it extended east to Lot F. The construction of these two footings fully extended the length of the original structure by the width of the alleyway, resulting in the articulation of the new Lot E structure with the stable on Lot F. Next, new fireboxes of brick with sandstone hearths were built on top of the original ones, separated by a layer of fill. Finally, a fieldstone wall

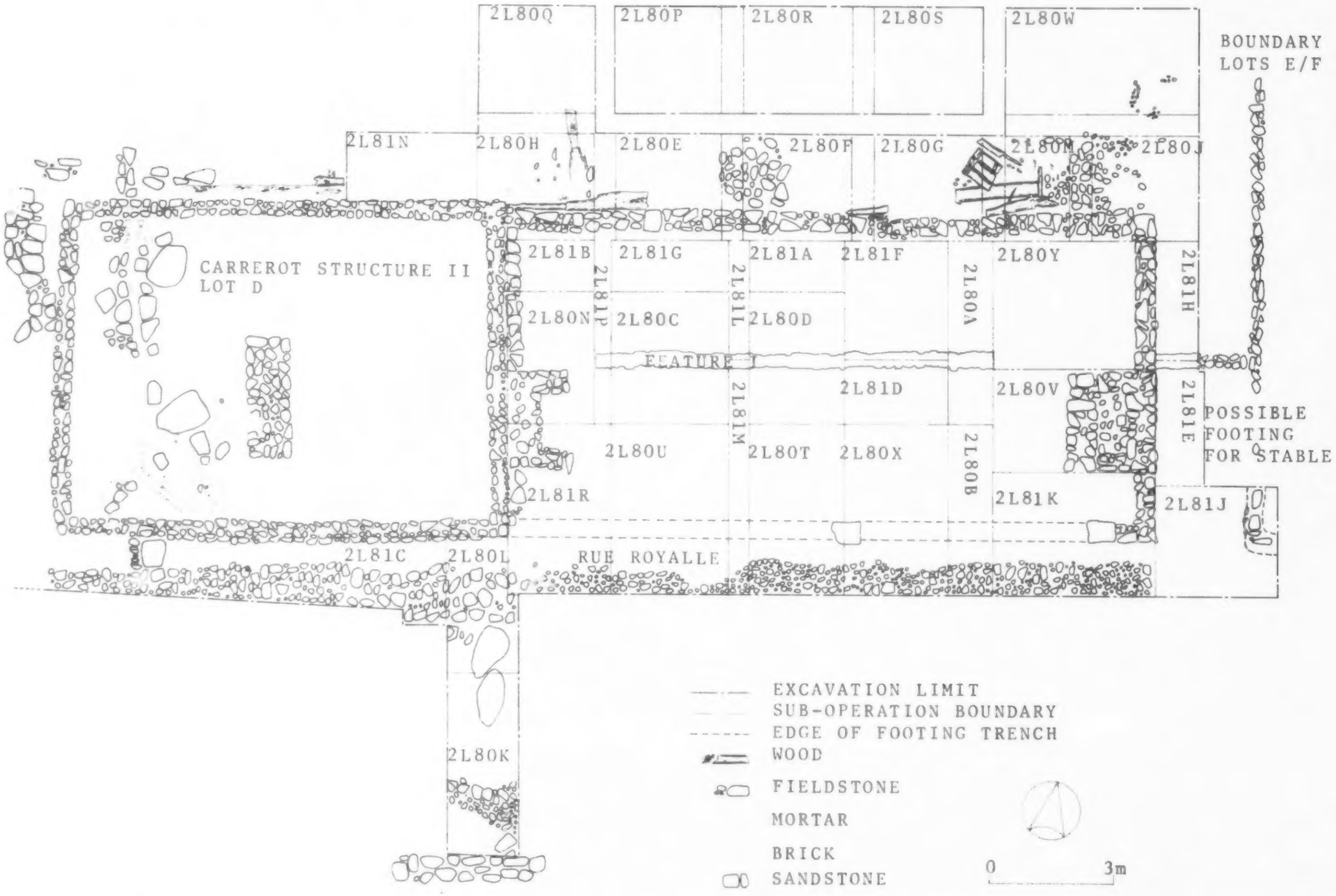
2L80Q
2L80P
2L80R
2L80S
2L80W
BOUNDARY
LOTS E/F
2L81N
2L80H
2L80E
2L80F
2L80G
2L80M
2L80J
CARREROT STRUCTURE II
LOT D
2L81B
2L81G
2L81A
2L81F
2L80Y
2L81H
2L81P
2L81L
2L80A
2L80N
2L80C
2L80D
FEATURE J
2L81M
2L81D
2L80V
2L81E
POSSIBLE
FOOTING
FOR STABLE
2L80U
2L80T
2L80X
2L80B
2L81R
2L81K
2L81J
2L81C
2L80L
RUE ROYALLE
2L80K
EXCAVATION LIMIT
SUB-OPERATION BOUNDARY
EDGE OF FOOTING TRENCH
WOOD
FIELDSTONE
MORTAR
BRICK
SANDSTONE
0
3m

Figure 3. Site plan of 1975 Dugas house excavations showing features related to later occupation period. This plan represents the surface of the "siege debris" events. (Drawing by S. Epps; 2L-79-102-1b, c.)

(Feature 2) was found to have been constructed about 3 m from the west end of Feature 1 and running north an undetermined distance into the yard.

Stratigraphy

The most important stratigraphic layer in Council's interpretation of the excavations was one designated Event 59 (*see* App. A for lot-layer correlation). This was a layer of ash and charcoal densely littered with charred wood, artifactual debris and some structural members, and as well it contained eight cannonballs. This event was located throughout most of the interior of the duplex and varied in depth from approximately 10.0 cm to 25.0 cm, the deepest areas holding the greatest concentrations of artifacts. In the northeast corner, however, Event 59 was virtually inseparable from the overlying event and is therefore scantily represented.

Event 59 was, in general, vertically located between two soil layers: below was Event 5, a clay fill deposited during construction in order to even the ground level on the interior of the structure; above was Event 9, a layer of stone rubble and clay used as fill on the interior during the building of the later structure. Much of the stone in Event 9 had been obtained from the north footing of the Dugas house.

Layers of debris similar to and interpreted as originally part of Event 59 were found in other areas of the site. The largest accumulation was in the occupation soil zones in the backyard. These zones, the result of a gradual and fairly homogeneous buildup of humus after the construction of the additions and the pathway, were designated one event, Event 49, because of the lack of defined stratigraphy. Of note in the debris found in this area were architectural debris, apparently from the house itself, and a cannonball, located beneath this same debris. Smaller concentrations of debris were found in the two drains in the north footing of the duplex. These drains had silted up and been blocked on the exterior by the accumulation of Event 49. The silt in the drains was designated Event 60 by Council. Finally, the 1723 well was found to have been filled with soil and debris as was Event 59 prior to having been covered over with rubble. The well fill was designated Event 44.

As far as later structural activities on the site were concerned, a layer of stone chips was deposited by the west fireplace and the apron pad constructed for the east fireplace after the deposition of Event 59 but before the deposition of the Event 9 fill zone. However, the new north footing, Feature 1, and the adjoining fieldstone pad were found to have been built on top of Event 9. Another layer of fill (Event 14) was found deposited over Event 9 on the interior of the new structure. It is over this fill zone that the new fireboxes were constructed.

A great deal of brick rubble was found in a line running from the fieldstone pad to Feature 2. As well, layers of fill were found to have been deposited subsequently in the areas north of Feature 1. One of these fill zones, Event 31, was located east of Feature 2. In the area west of Feature 2 but east of the Carrerot II structure, a humus layer was found to have developed over the fill zones. Two miscellaneous events (one an intrusive pit and the other a pile of roofing slate) were followed by more filling in the general yard area. One of these fill layers, designated Event 22, is described as the second fill zone, west of Feature 2 and east of the Carrerot II. Pavé and another fill zone followed in the yard area.

Interpretation

The interpretation of the data from the Dugas house excavations is difficult for several reasons. Firstly, the stratigraphy was complex in many areas and not easily definable. Secondly, the later structure was partially excavated some years earlier, resulting in a lack of continuity and a physical change in some of the features and strata. Finally, there is a general lack of historical documentation for the later period and what documentation there is, seems contradictory. However, taking these factors into account, the archaeologist, Council, has suggested the following interpretation of his excavations on Lot E.

The construction and early period of the duplex is straightforward enough and covered in the preceding features section. The archaeological interpretation pertinent to the present report really begins with the deposition of Event 59. Council (1975) states:

> The nature of the debris deposits suggests violent destruction of the house, presumably by bombardment and fire. The debris layer in the interior of the house (Event 59) and the debris in the yard area were sealed by deposits and features which are demonstrative of a major change in the structural configuration of the Lot E structure. Comparing the post-Event 59 structural configurations with historic plans has led us to assert rather strongly that the debris layers were the result of the siege of 1745.

The analytical data in support of this assertion and the interpretive consequences will be examined further on.

As stated in the stratigraphy section, the east fireplace apron and the layer of chips found by the west fireplace post-dated Event 59 but pre-dated the subsequent fill zone over Event 59. This has been interpreted by the archaeologist as indicative of attempts to rebuild the structure for habitation after it was destroyed in the siege. As no apron pad was found on the west fireplace, the restoration was apparently abandoned. However, during the brief attempt, some debris from Event 59 was discarded in the yard and in the 1723 well, probably to level the interior and to allow access to the footings and fireplaces.

After the restoration attempt, the interior of the duplex was filled (Event 9). Then the new north footing and the adjoining fieldstone pad were constructed to form a new structure, but one which utilized the original fireplaces and both the west and south footings.

It is uncertain whether the structure extended fully to Lot F at this time, despite the fact that the new north footing did. The interior of the new structure was then filled (Event 14) and because this fill penetrated Event 9 to some extent, this has been interpreted as indicative of the former being deposited shortly after the latter. At some time after the filling, the south footing was robbed (Event 18), leaving only bare traces of the original wall. The new south footing was then built, extending all the way to Lot F. The fact that both the new north and south footings extended to Lot F indicated to Council the structural integration of Lots E and F structures sometime after 1745. He has further suggested that by 1751, that is, early in the second French occupation, Lots E, F and D had one integrated structure as on a plan dated that year only one building is shown rather than three. The precise dates between 1745 and 1751 for the structural changes are unclear but some English plans made during the 1745-49 occupation indicate that the original dimensions of the Dugas house were still extant during this period and that the alleyway between Lots E and F still existed. This suggested to Council that although attempts might have been made to restore the duplex during the New England occupation, the new, narrower structure was not built until very late in that occupation or early in the second French occupation. The latter would appear to be more likely as there is documentary evidence concerning the moving of the wet goods storehouse from Block 1 to the *commissaire-ordonnateur*'s property on Block 2 and this documentation ties in well with the archaeological evidence for the new Lot E structure (D. Harris 1979: pers. com.).

Use of the new building was historically as a stable. However the fieldstone pad by Feature 1 has been interpreted as a possible chimney base and brick fireplaces were added later above the original east and west ones, so Council feels that these may be indicative of a dwelling rather than a stable, at least when these features were first constructed.

Activities definitely attributable to the second French occupation are the filling zones, Events 31 and 22, and the repointing trench, Event 32, for the new north footing. Certain strata and features were also identified as relating to the final occupation phase and abandonment of the structure in the 1760s and 1770s.

Event 59 therefore is the key layer in Council's interpretation of these excavations. If this event and the other debris layers did indeed represent the effect on the house of the 1745 siege, then the site holds great potential for analysis. Not only could many of the architectural details of the house be learned, but the debris on the interior was hypothetically an ideal primary deposition, that is, a relatively complete artifactual assemblage of the material culture of the house at that time and, as well, one that could give behavioural information due to the non-random distribution of the artifacts.

Council suggests that the cannonballs found in Event 59 were probably responsible for the structure catching fire and burning, with the result that the interior was gutted in a matter of hours. However, no traces were found of the larger structural members of the duplex, such as the *charpente* framing, so he feels that it is possible that these survived only to be scavenged afterwards. The contents of the house, then, were deposited on the surface of the crawl-space beneath the ground floor, probably in basically the same relative positions as before the fire.

In order to test the assumption that the Event 59 artifact assemblage represents the intact contents prior to the siege, the discreteness of Event 59 was examined by Council. First, the possibility that pre-siege deposition could have occurred through cracks in the flooring was rejected because *charpente* houses commonly had tongue and groove plank flooring, making it just about impossible for artifacts to fall through to the surface of the crawl-space. Then the possibility of post-siege deposition of refuse on top of Event 59 was considered. There had been no deposition on the surface that could be visually differentiated from the siege debris but as a precaution the interface between Events 59 and 9 had been excavated with the latter. There was also, however, the problem of post-siege removal of Event 59 debris. Scavenging of reusable timbers, hardware and other metal artifacts that would not have been affected by the heat almost certainly took place. As well, during the post-1745 restoration attempt some of the debris on the interior was removed to the yard, as evidenced by the crossmending of some Events 59 and 49 ceramics. Besides the above factors, there was also the consideration that the inhabitants may have gone to more protected areas, such as the casemates in the King's Bastion, during the siege and that they would have taken valuable, transportable belongings with them. Finally, the fire and the long period underground undoubtedly destroyed perishable items such as cloth. Therefore, Council has concluded that Event 59 does not equal the entire house assemblage prior to the siege.

In spite of this, however, he maintains that Event 59 artifact distribution may correlate with the pre-siege distribution and thus indicate room location and function. With this in mind, the nature of the artifact distribution was tested to see if there was any significant clustering. By using the sherd densities of different ceramic ware types, and certain glass and other artifact groups, he found that there were two main clusters of domestic artifacts, the main one in the southeast corner and a secondary one in the northwest corner. The density distribution suggested non-random patterning and this was further evidenced by the apparently functional distribution of some of the artifacts, for example, the heavy concentration of stemware in 2L80Y19, beside the north cheek of the east fireplace. Council does admit that the distribution of architectural artifacts, such as window glass and nails, in patterns largely like those of the ceramics and glassware may suggest that the destruction of the house was not as complete or that the artifact locations were not as strongly associated with their pre-siege use locations as he supposed. However he concludes that the similarity of the patterning may be only a similarity in the degree of object breakage in certain areas of the structure and that vessel counts may reflect different patterns.

On the basis of these data suggesting primary deposition, a reconstruction of the room layout of the duplex at the time of the siege has been attempted by Council. The 1733 inventory taken after Dugas's death has been used and he has examined the sherd distribution to see if it corresponds with the room functions and locations as implied in the inventory. Interestingly enough, Council interprets the inventory differently from the historian, Dunn, and locates the main kitchen/living room (*chambre*) in the southeast corner and the other large room in the southwest corner with the smaller rooms along the north side of the house. Dunn, on the other hand, feels that the large rooms were in the southeast and northwest corners (Dunn 1971). The archaeologist feels that the artifact distribution ties in with the room location given in the inventory as interpreted by him, that is, the concentration of domestic artifacts in the southeast corner suggests the main kitchen/living area while the lesser concentration of the same types in the northwest corner implies a storage room or pantry located next to the southwest room and only sporadically used for kitchen activities after the takeover of the entire house by the Dugas family. Unfortunately, the sherd distribution done by Council does not suggest any other room locations or activities.

GLASSWARE ANALYSIS FOR EVENT 59

Introduction

As stated in the general introduction, one of the aims of this report is to re-examine the data on Event 59 and to assess the validity of the archaeologist's conclusions - that Event 59 represents a primary deposition of household debris from the 1745 siege. Council, in his 1975 report, examines the sherd densities of different artifact groups which in some cases are not functionally exclusive. For example, the French coarse earthenware group can serve food storage, preparation or serving functions, and the French tin-glazed earthenware group can be used for food serving or personal hygiene functions. On the other hand, the glass groups used by Council are basically equivalent to functional groups. He has examined the sherd density distribution of French blue-green bottle glass, common green bottle glass and stemware tableglass (Council 1975: Apps. 3-A, 3-B, 3-G), which translate to all intents and purposes to *flacons*, beverage bottles and stemware in the present report. Therefore, because the sherd distribution has already been assembled and analysed by Council, it was felt that vessel distribution might be of further interest. More distinct functional categories could be determined and the clustering of these groups might revise or confirm conclusions drawn from the sherd distribution data. With this in mind, the glassware sherds from Event 59 were mended, crossmended and catalogued, and then a minimum vessel count was done. The methods and results are briefly discussed in the first two sections of this chapter. The minimum vessel count section concludes with a description of the functional and stylistic categories present and their respective quantities. The country of origin and dating of the vessels is discussed in the next two sections. Following these, the distribution of the vessels is discussed and then the condition of the glassware in general is examined. Finally, an interpretation of this analysis is given, with specific reference to Council's conclusions, and general conclusions are drawn regarding the glassware assemblage. It should be noted that specific sub-operations are mentioned throughout this chapter; the reader is referred to Figure 2 or 3 for their locations.

Crossmends

The mending and crossmending were carried out prior to the cataloguing of the artifacts. Within lot mending and within Event 59 crossmending were done first; then crossmends of Event 59 with other events were looked for. None of the other events, except Event 5, was systematically mended and crossmended so the number of crossmends between Event 59 and other events may be artificially low as a result.

The amount of mending within each of the Event 59 lots was quite high, particularly in lots such as 2L80Y19 and 2L80X9 where there was a concentration of a particular category of glassware. Crossmending between lots in the same or different sub-operations but still within Event 59 was also fairly common, with such mends being absent in only four sub-operations (2L80A, 2L81M, 2L81P and 2L81R). Two sub-operations (2L80Y and 2L80N) had crossmending only within their sub-operation limits. While the Event 59 crossmends were generally found within all of the glassware categories, it is of interest to note that no crossmends were found in the large concentrations of stemware in 2L80Y. Crossmending within Event 59 among the remaining sub-operations was concentrated in three groupings. The largest of these was in the eastern two-thirds of the structure and had a core made up of 2L80X, 2L81D and 2L80B and surrounded by 2L80T, the southern portion of 2L80D, 2L81F, 2L80V and 2L81K. The second grouping was located just south of the north footing and involved 2L81G, 2L81L, 2L81B and 2L81A. The third grouping consisted of 2L80C and 2L80U. In almost every case the crossmending was to the neighbouring lot(s) or sub-operation(s). It was only in the largest grouping that crossmends occurred between two sub-operations separated by a third of some size, as in the case of 2L80X which as well as mending with 2L80T, 2L81D and 2L80B, also mended with 2L81F and 2L80V.

The fairly large amount of within lot mends and concentrated groupings of crossmends would appear to indicate that the context was a primary deposition deposited over a fairly short period and that there was either some scattering of sherds at the time of deposition and/or some post-deposition disturbance. These are both valid explanations given Council's interpretation of the excavations. First, he has hypothesized that the contents of the house collapsed to the surface of the crawl-space when the house burned and was gutted. This would necessarily result in the breakage of vessels and the consequent scattering of fragments, particularly in the case of glass objects. It should also be remembered that the house was probably a story and a half high and objects in the attic would undoubtedly have broken and scattered if they fell to the crawl-space level. Second, Council has also suggested that there was some displacement of Event 59 during the post-siege restoration attempt. If this were indeed the case, broken objects would probably have been further scattered within the interior of the house while some of the debris was being levelled and moved to the yard area. It is also possible that objects could have been freshly broken during the same procedure.

Crossmends between Event 59 and other events proved to be interesting but not as numerous as expected. The archaeologist predicted crossmending with Events 49 (yard debris; ceramics crossmends were found by him), 9 (fill above Event 59), 18 (south footing robber's trench), 14 (fill above Event 9 but south of Feature 1), and 44 (yard well fill). As well, he felt that crossmends with Events 60 (drain fill), 57 (fill under upper step in yard), and 64 (occupation fill in alleyway) might possibly occur (Council 1976b). Of these events, only two, Events 9 and 18, proved to crossmend with Event 59. The greatest number of crossmends with other events occurred with Event 9 throughout the portion of the structure east of and including 2L80D and 2L80T. Crossmends with Event 18 also occurred in the eastern portion within 2L80B and between 2L80B and 2L81K.

Besides these expected crossmends, Event 59 was also found to mend in 2L80N with Event 5, the earliest construction fill. Crossmending also occurred with Events 31 and 22 (fill zones north of Feature 1), and Event 32 (Feature 1 repointing trench), all of which have been interpreted as dating to the second French occupation. Finally, crossmends were recorded between Event 59 and two miscellaneous and unassociated lots.

Although there were a number of unexpected crossmends with other events, they cannot be interpreted as invalidating the archaeological interpretation of the Dugas house excavations. No intrusive material was involved and the mends were all relatively close, both horizontally and vertically. As with the majority of the crossmends that occurred within Event 59, these crossmends with other events were found to be either between lots in the same sub-operation or between lots in neighbouring sub-operations. The crossmends, rather than being an indication of the non-discrete nature of the context, are most probably a reflection of later soil disturbances or ill-defined stratigraphy, quite possibly due to the continuous freeze-thaw action to which Louisbourg is subject.

In summary then, the Event 59 crossmends occurred within almost all of the glassware categories and the major concentration was in the eastern two-thirds of the structure. There was a fairly large amount of within lot and within event mending, implying primary deposition over a short period of time and quite possibly due to the hypothesized manner of deposition and later partial displacement of Event 59. On the other hand, predicted crossmends with other events were not found for the most part. Event 59 was found to mend with Event 9, a result no doubt of the interface between the two being excavated with the latter, and with Event 18, probably due to the latter's intrusion into Event 59. However, no crossmends were found with the yard debris (Event 49) or the well fill (Event 44), so perhaps there was actually less post-deposition displacement of Event 59 than originally thought by the archaeologist. Some crossmends were found with other events interpreted by Council as earlier and later than Event 59, but these can be reasonably explained and hence do not affect the archaeological interpretation of Event 59.

Minimum Vessel Count

The minimum vessel count was done to determine the minimum possible number of vessels present in Event 59. It was felt that by using such a count as the basis for a functional distribution analysis, the interpretation of the event would be enhanced, more so than if sherd counts were used since the degree of breakage would not be a factor.

The minimum vessel count was undertaken after the cataloguing and mending of the material had been completed. For a discussion of the cataloguing procedure and the data base, the reader is referred to the introduction to Part II of this report. It should be emphasized here that the assignation of an individual catalogue number to a sherd was never intended to equal the identification of a vessel. In some cases the two have coincided but in many more the individual catalogue numbers are not representative of vessels in the sense of the minimum vessel count.

In general the vessel count was established by first identifying the kinds of glassware present and arranging these into a meaningful functional/stylistic classification system (App. B). Then all of the artifacts belonging to a particular category were examined and the diagnostic attributes counted. In any given category the attribute present in the greatest quantity was designated as the basis for the minimum vessel count and the number of vessels in that category (be it a variety or style, etc.) was equal to the total number of the designated attribute present. For example, in the case of the *verre fougère* variety of French stemware, whole stems were present in the greatest number in the spindle style while only the lower part of the stem, the baluster, was present in the greatest number in the hollow blown inverted baluster style. In a small number of cases, the uniqueness of an attribute or a combination of attributes was used as the basis for vessel identification. Generally this occurred with the unidentified container and tableware artifacts. For a breakdown of the classification categories, the diagnostic attributes used in each category for the inclusion of artifacts in the minimum vessel count, the individual catalogue numbers of those artifacts and their illustrations, if any, in this report, the reader is asked to refer to Appendix C.

The minimum vessel count for the Event 59 glassware is shown in chart form in Table 1. This chart shows the distribution of the count for each category and sub-operation used. Sub-totals of categories within the classes are indicated by parentheses while the total for each class is indicated by square brackets.

A total of 129 vessels were identified; of these, 34 (26 per cent) are containers and 95 (74 per cent) are tableware vessels. There are no vessels which could not be placed in either the container or the tableware class. Furthermore, few functions are represented within these classes.

The containers are for the most part made up of beverage bottles, dark green glass bottles used for the storage of wine and spirits, and *flacons*, multi-purpose containers used largely for the storage of foods and liquids. The beverage bottles, including 12 "wine" and two case bottles, form 11 per cent of the assemblage and 41 per cent of the container class. The *flacons*, of which nine are narrow-mouthed and three are wide-mouthed, make up nine per cent of the assemblage and 35 per cent of the containers. The remaining container vessels include three medicine vials, forming two per cent of the assemblage and nine per cent of the class, and one complete inkwell, all of which could be interpreted as personal items rather than domestic. The final four containers are vessels which could not be identified beyond the class level.

The tableware class is made up largely of drinking glasses - stemware, tumblers and a cup, plus dessert glasses or footed tumblers which could have been used for eating and/or drinking. The stemware is by far the most numerous vessel type present, not only in this class but in the total glassware assemblage. Seventy-one vessels were identified, thus composing 55 per cent of the assemblage and 75 per cent of the class. Tumblers, numbering 17 in all, are the next most numerous and make up 13 per cent of the assemblage and 18 per cent of the tableware class. There are three identifiable dessert glasses or footed tumblers, forming two per cent of the assemblage and three per cent of the class. A single cup was also identified and the final three vessels are unidentifiable beyond the class level.

Thus it can be seen that the glassware assemblage is almost wholly made up of domestic artifacts concerned with either the storage or serving of food and drink. In numerical terms, 118 of the 129 vessels, or 92 per cent of the assemblage, can be described as such.

Although the range of functions is small for the glassware, there is a tremendous amount of variety present as far as the stylistic categories are concerned. These are described in detail in Part II of this report but it is of some importance to note here the amount and variety of French stemware present.

The French stemware vessels number 63 and have been classified into five varieties. The most numerous of these is *verre fougère*, of which there are 46 vessels in all, making up 36 per cent of the assemblage and 48 per cent of the tableware class. This variety has been classified into three styles, of which there are 12, 11 and 23 vessels respectively. In the first style, there are four forms present, each represented by five, three, three and one vessel respectively. In the next style, there are two forms, one represented by seven vessels and the other by four. Finally, in the last style, there are 14 vessels present in one form and nine vessels present in the second. The next most numerous variety of French stemware is the corrugated conical stem variety, of which there are 13 vessels of one basic style, forming 10 per cent of the assemblage and 14 per cent of the tableware class.

These quantities of stemware would appear to strongly indicate the presence of sets of tableware in the context, something also suggested by the presence of more than one vessel of the same configuration in the British stemware group, the optic moulded and opaque white tumbler forms, and the dessert glass or footed tumbler type.

Country of Origin

Both French and British artifacts are present in the Event 59 glassware assemblage. As is to be expected, given that Louisbourg was a French settlement and that the context is reputed to date to the end of the first French occupation, vessels of French or probable French manufacture greatly outnumber those of British manufacture. Out of a total of 129 vessels, 104 (81 per cent) are of French origin while only 15 (12 per cent) are of British origin. The remaining 10 vessels are of unidentified origins.

Of the 34 vessels identified in the container class, 20 are French, six are British, and eight are of unknown origins. Thus the French vessels form 59 per cent of the class and the British vessels 18 per cent. Within this class, in the beverage bottle type, there are seven French "wine" bottles and five British ones. The two case bottles in this container type are of unidentified origins. In the *flacon* type, all of the vessels are obviously of French manufacture, while in the medicine vial type, one French *fiole* was identified but the other two vessels are of unknown origins. The single example of an inkwell is also of unknown origin. Finally, of the four containers of unidentified function, one is made of lead glass and is therefore of British manufacture but it has not been possible to determine where the other three were made.

In the tableware class, 84 of the 95 identified vessels are of French or probable French origin. This represents 88 per cent of the total for this class. The British vessels, on the other hand, number only nine and make up ten per cent of the total. The final two vessels in this class are of unknown origins. Within the tableware class, in the stemware type, there are 63 French vessels and eight British vessels. In the next three types, tumblers, dessert glasses or footed tumblers, and cups, the vessels are all presumed to be of French manufacture. Lastly, of the three vessels of unidentified function, one is of lead glass and therefore British origin while the remaining two are of unidentified origins.

The presence of British glassware is quite usual in a context such as this is suggested to be. Artifacts of British origin occur commonly in French contexts at Louisbourg and at other sites, such as the Roma settlement on Prince Edward Island (Alyluia 1975). The amounts present, however, are less than those of the French artifacts present.

The identifiable British vessels in the assemblage were products of the superior British glass industry. The French "wine" bottles of dark green glass were made in imitation of the British "black" glass "wine" bottles which, because of their colour and strength, were favoured for the storage of wines. The nearly equal number of French and British "wine" bottles may be a reflection of the desirability and widespread use of the British product. The lead glass stemware vessels, made only in Britain at this time, were considered desirable because of their overall appearance and lack of colour, and because of their strength. The attempts of French and other continental glassmakers to imitate the glass and styles are testimony to this (Charleston 1959: 155-65). The British drinking glasses in Event 59, although few when compared with the large number of French ones, are still notable for their style, quality and presence in the context.

The items of French manufacture could have been obtained from any of a number of places with which Louisbourg had trading connections. These primarily included France, Acadia, Quebec and the French West Indies. Obtaining British goods in Louisbourg was also fairly easy during the French occupations. An extensive trade was carried on with New England ports such as Boston and in some years, in fact, the total number of New England merchant ships visiting Louisbourg exceeded that of French merchant ships (Moore 1975). Items received from New England during the first French occupation included such things as *verres à* *boire* (drinking glasses) in 1737 (Moore 1975: Table 4) and, in 1742, *huile de poisson* (fish oil) (Moore 1975: Table 1) which may have been packaged in glass containers. No direct trade was carried on between Britain and Louisbourg but it is possible that goods were first imported by France and shipped to the colonies from there.

Date

All of the Event 59 glassware artifacts date stylistically to the 18th century or in a few cases to the very late 17th century; there is no intrusive material present. For French glassware it is virtually impossible to assign a more definite date than, for example, the 18th century, or to more than mention the fact that similar artifacts turn up on other French colonial sites. Unfortunately the majority of excavated French colonial sites in Canada have remains which date from no earlier than approximately 1700 to no later than approximately 1760, a relatively short span of time, and it appears from the artifacts recovered that very little change was occurring either in the style or manufacture of the French glassware available to the colonial market during that period. To add to the problem of a limited occupation span is the general lack of documentation on French glassware. Aside from the work of James Barrelet and Robert Charleston, very little research appears to have been done on French glassware from a collector's or museum curator's viewpoint. Eighteenth century British glassware on the other hand is abundantly researched and published. A great many changes were occurring in the British glass industry during the last part of the 17th century and throughout the 18th century and these changes are well documented, both in the museum/collecting literature and in archaeological site collections, by different styles and methods of manufacture. Because of the rapid changes in style and manufacturing techniques fairly tight chronologies have been worked out for both British "wine" bottles and stemware and therefore it is the British artifacts which can in most cases give a date range (other than that of the occupation) to a French context.

As discussed in the previous section, glassware artifacts of British origin are present in Event 59. The datable ones include some of the "wine" bottles and lead glass stemware; the unidentified container and tableware vessels cannot be dated. The two restorable "wine" bottles (Forms A and B) date stylistically from approximately 1715 to 1745; the miscellaneous finishes and bases do not appear to contradict these dates. The "baluster" stemware examples (Styles 1 to 4) have a greater stylistic date range and when grouped together date from ca. 1690 to 1730, with the overlap of the four styles occurring from 1700 to 1720. It must be stressed that these are stylistic dates and therefore are for when the style was in vogue and being manufactured. Baluster stemware, similar to those found in Event 59, occur on colonial sites up to the 1740s despite the fact that they may no longer have been in style in England (Noël Hume 1972: 189). It is probably not unreasonable to assume that "wine" bottles follow suit.

This may be a reflection of British goods being slow to reach colonial markets, particularly the French ones, and/or the owners simply using the objects for as long as they were still functional.

The French glassware cannot be more specifically dated than to the 18th century, except for one stemware variety. This variety, the corrugated conical stem, has been dated stylistically to the middle of the 18th century and later, however it does occur in first occupation contexts at Louisbourg (McNally 1974). Furthermore, the assemblage does lack any demi-lead tableware vessels or *bouton carré* stemware. The former have been attributed to the Low Countries, probably dating to the middle decades of the century, and have been found in second French occupation contexts at Louisbourg (McNally 1974). The *bouton carré* stemware, a moulded pedestal style of drinking glass made in Bohemian-type glass by French glassmakers, was popular in the third quarter of the century and formed part of the cargo of *Le Machault*, a French frigate sunk in the Restigouche River at the head of Chaleur Bay in 1760 (McNally 1977: 38-39). It also has been found in second French occupation contexts at Louisbourg. The absence of vessels of demi-lead glass and the *bouton carré* style would appear to endorse the dates suggested by the British glassware, that is, the first half of the 18th century. The assemblage, therefore, has a stylistic date range appropriate to a 1745 context containing the contents of a house built in 1723.

Distribution

Council, the site archaeologist, found by using sherd density distribution data that non-random patterns of artifact distribution and artifact class/deposition locality were both indicated in Event 59. He therefore concluded that a primary deposition was demonstrated and he went on to attempt to define the location and uses of rooms, using the sherd distribution and historical data. As stated in the introduction to this chapter, it was felt that an examination of the distribution of the glassware vessels might be of use in the re-examination and assessment of the archaeologist's interpretation and conclusions. To this end the vessel distribution will be considered first overall (combined classes), then functionally, then stylistically, and finally by country of origin in order to see if there was indeed any clustering on the interior of the house.

The overall distribution of the 129 vessels indicates that there were two major concentrations and one minor one in Event 59. The largest concentration was located mainly in the southeastern two-thirds of the house. It was centred in 2L80X and included 2L80B, 2L80T, 2L81K, 2L81D and 2L81F, making a total of 64 vessels or 49 per cent of the assemblage. The second major concentration was located in the northeast corner of the structure, solely in sub-operation 2L80Y, and is composed of 45 vessels or 35 per cent of the assemblage. The third concentration of vessels was in the northwest corner and included 2L81G, 2L81B, 2L80N and 2L80C, to make a total of 12 vessels or nine per cent of the assemblage. The remaining vessels were located two each in the northeast area of the house in 2L80A and 2L80V, and one each just west of the north-south centre line in 2L81A, 2L80D, 2L81L and 2L81M. No glassware vessels were located in the southwest corner in sub-operations 2L81R and 2L80U.

In terms of functional distribution, the three concentrations are all quite different from each other. The major concentration, centred in 2L80X, is made up of 34 tableware vessels and 30 containers. Thus while 36 per cent of the tableware class was found in this area, 88 per cent or almost the entirety of the container class was present as well. All of the container and tableware types are represented in this concentration and quite heavily in some cases. For example, in the container class there are 13 of the 14 beverage bottles, 10 of the 12 *flacons* including all three of the wide-mouthed ones, all three of the medicine vials, and the inkwell. In the tableware class, there are 20 stemware vessels, 11 tumblers, one dessert glass or footed tumbler, and the single cup. Thus this cluster of glassware has a large mixture of domestic or kitchen-related vessels used for the storage and serving of food and drink, as well as the few personal vessels identified in the assemblage.

The second concentration, located in 2L80Y, is made up of 44 tableware vessels (46 per cent of the class) and only one container. A breakdown by type indicates that 42 of the tableware vessels are stemware drinking glasses and the remaining two are dessert glasses or footed tumblers. The sole container is a narrow-mouthed *flacon*. Thus over half of the stemware (59 per cent) was located in this one sub-operation along with a notable lack of containers, thereby indicating that little food or liquid/liquor was stored in this area.

In the third concentration, located in the northwest corner, there are 11 tableware and one container vessel. The tableware vessels include six stemware and four tumblers while the container is of the "wine" variety of beverage bottle. This concentration, like the one in the northeast corner, shows a disproportionate amount of tableware, though to a lesser degree and again the emphasis is on drinking rather than the storage of foods, liquids and liquors.

In the section on the minimum vessel count, mention was made of the large amounts of French stemware present in various stylistic categories and of the possiblity of sets. The vessel distribution, when examined for stylistic rather than just functional clustering, exhibits strong concentrations only in 2L80Y in the northeast corner of the house. Of the 42 stemware vessels found there, 38 are of French origin and of these, ten are of the *verre fougère* spindle stem style (four Form A, two Form B, three Form C and one Form D), 13 are of the *verre fougère* one-part manufacture inverted baluster form, and nine are of the verre fougère one part manufacture "cigar" form. The remaining ten stemware vessels include four corrugated conical vessels, four British baluster vessels, one *verre fougère* hollow blown inverted baluster style vessel and the single example present in Event 59 of the hollow writhen cigar stem style. As well, there is concentration within the limits of 2L80Y as all of its stemware vessels except for four of the one-part manufacture inverted baluster form were found in one lot, 2L80Y19, located beneath Feature 1, beside the north cheek of the east fireplace. All in all, 38 stemware vessels, or 54 per cent of the stemware type, were found in this one narrow space. Another example of the existence of stylistic clustering in addition to functional clustering is in the northwest corner where the two examples of the first form of opaque white decorated tumbler were located. It would therefore appear that sets of varying numbers and stylistic configurations of tableware were not only present in the house but that the members of some of those sets were stored and/or used together. This is obvious in the northeast corner and suggested in the northwest corner. For the remainder of the house, made up largely of the concentration of tableware and container vessels centred in 2L80X, the clustering appears to be only of a functional rather than a functional/stylistic nature.

As far as country of origin is concerned, the British vessels were not concentrated in any one area separate from French vessels. In all instances the British vessels occurred in sub-operations where French vessels were more numerous and the clustering follows that of the overall and functional concentrations, that is, the majority of the British vessels and containers were located in the major concentration area centred in 2L80X and the largest cluster of British tableware, four stemware vessels, was found in 2L80Y19 as part of the greatest concentration of stemware in the event.

To summarize then, the vessel distribution data indicate that there were three concentrations of glassware in Event 59. The largest one was centred in 2L80X and located in the southeastern two-thirds of the structure; the other large one was located in the northeast corner, in 2L80Y, largely beside the north cheek of the east fireplace. Finally there was a minor concentration located in four sub-operations in the northwest corner. The largest concentration contains both container and tableware vessels and although the latter outnumber the former, this concentration still holds by far the majority of the containers in the assemblage. The concentration of vessels in the northeast corner is almost wholly made up of stemware vessels and strongly indicates the presence of sets, while the minor concentration in the northwest corner is also composed almost totally of tableware vessels.

The clustering of certain vessel groups, both functional and stylistic, appears to confirm the conclusion reached by the archaeologist that Event 59 was a primary deposition of household material. The vessel distribution data are not substantially different from the sherd density distribution data that Council worked with (Council 1975: Apps. 3-A, 3-B, 3-G). The sherd data suggested that 2L80X was the key sub-operation and that the major concentration was centred in that unit, however no stemware sherds were recorded there by Council. The stemware concentration in 2L80Y19 was picked up but there was also an indication of a concentration of French blue-green bottle glass, a concentration identified as only one vessel in the minimum vessel count. Likewise in the southwest and northwest corners light concentrations of glassware were noted by the sherd density data, but the vessel data indicate a minor cluster of vessels only in the northwest. Thus it would appear that while the sherd data have indicated the extent of breakage and scattering, the subsequent crossmending and minimum vessel count have provided a more sensitive and accurate picture of the amount of glassware present in the context and its distribution within the house.

The different vessel categories and amounts present in the three areas of vessel concentration indicate that different activities were taking place in different areas of the house. The major concentration of glassware suggests the location of the kitchen/living area for the family, an area where food and beverages would be both prepared and served, and probably stored to some degree as well on wall shelving or in cabinets. The presence of the more personal containers, the medicine vials and inkwell, may be further indicative of the area's multi-purpose nature. On the other hand, the tight concentration of stemware along the north cheek of the east fireplace suggests the probable storage place of a large number of vessels, mostly in sets, and possibly in a cabinet or on shelving against the wall of the fireplace or even in unpacked cases. The minor concentration in the northwest would appear to suggest drinking activities on a small scale, certainly secondary to those carried on in the southeastern two-thirds of the structure. Finally the absence of glassware vessels in the southwest corner may be indicative of a general lack of activity in or use of that area at the time of deposition. It must be noted, however, that although the presence of containers and tableware is a good indication of food and liquid consumption and/or storage, these same classes of glassware do not generally reflect other uses and activities, such as sleeping for example. Therefore the lack of any glassware vessels in the southwest corner may perhaps be an indication of its use as a bedroom, as suggested by Council.

Condition

The archaeological report maintains that the Dugas house burned within a matter of hours during the siege. The condition of the glassware is therefore of some interest for if the structure did indeed burn this should be reflected in the artifacts, that is, there should be a high proportion of undiagnostic burnt sherds and sherds affected by heat but still identifiable.

Only six out of the 129 vessels from Event 59 have been exposed to heat. This represents just five per cent of the total minimum vessel count. As far as the sherd count is concerned, only 15 were burnt beyond recognition and another 53 have been affected by heat but are still diagnostic (Table 2). Thus only 68 out of 2192 sherds, or three per cent of the total sherd count, reflect exposure to fire.

The heat-damaged vessels were located, one each, in sub-operations 2L80T, 2L80X, 2L81D, 2L81F, 2L80B and 2L81K. Likewise the burnt sherds and the remaining heat-exposed sherds were located in these sub-operations, particularly 2L80X and 2L80T, and in a few neighbouring ones, such as 2L80D. Generally the affected vessels and sherds occurred in those sub-operations with the densest concentrations of glassware, with the notable exception of 2L80Y which contained no vessels or sherds either burnt or having been exposed to heat.

The condition of the glassware, therefore, does not substantiate the archaeologist's interpretation that the Dugas house was destroyed by burning. It suggests that the only fire the structure might have sustained was very light and fairly localized, certainly not a conflagration.

The amount of wear on the glassware is also of some interest considering the disproportionate amount of stemware present and the fact that wear marks can be taken to be at least in part a reflection of use. All of the larger containers exhibit wear marks on their bases. The "wine" and case bottle bases in particular have heavy wear marks. Of the smaller containers, the medicine vials show less wear and the inkwell virtually none, but the unidentified lead glass vessel has extremely heavy wear marks, both on its base and its extant side (Fig. 24b). This is probably due to its being used and carried in a case such as a writing box. Of the tableware vessels, only the tumblers and the dessert glasses or footed tumblers exhibit wear to any degree on their bases. A couple of the tumbler bases are quite worn but on the rest the wear is fairly light. The stemware, however, show virtually no signs of wear on the bases of their feet. Only a very few have obvious wear marks and the majority have none at all.

The degree to which the wear marks reflect actual use is difficult to determine. It would appear that the containers as a group show more wear and use than the tableware but this may be a reflection of the differences in vessel weight. For example, a filled or empty "wine" bottle weighs considerably more than a stemware drinking glass of either French or British origin, and therefore will reflect use and wear more readily. It is also possible, however, that the majority of the stemware glasses, particularly those concentrated in 2L80Y, were simply not being used commonly, if at all, by the occupants of the house.

Interpretation and Conclusions

The previous sections of the glassware analysis partly substantiate the archaeologist's interpretation and hypotheses concerning Event 59, the reputed siege debris context on the interior of the Dugas house. It has been demonstrated by the vessel distribution data that Event 59 was indeed a primary deposition of the kinds of domestic artifacts which one would expect to find in a Louisbourg household. Three concentrations of glassware were found and within these concentrations the functional/stylistic categories present, and their respective amounts, varied. The crossmend data can also be interpreted as an indication of primary deposition especially in view of the fact that the three areas of vessel concentration were basically equivalent to the three areas where crossmends were found.

The hypothesized conditions under which Event 59 was deposited and the date at which the deposition occurred are not so readily confirmed, however. The context has been interpreted by the archaeologist, Council, as architectural and household debris deposited in a matter of hours while the house was gutted by fire, a fire started as a result of the structure being hit by cannonballs during the 1745 siege. The glassware assemblage reflects little or no exposure to heat or fire and cannot substantiate the suggestion that the Dugas house was destroyed by burning. Although the structure does not appear to have burned to any substantial degree, it is possible that localized fires may have broken out in the areas hit by cannonballs. While this might explain the small numbers of heat-affected or burnt sherds and also the fact that no traces were found of the larger structural members, such as the framing, during the course of the excavation, the distribution of the cannonballs (Council 1975: App. 1) does not correspond with that of the burnt sherds. Therefore it would appear that although the house may have suffered some damage during the siege, it was not destroyed by an intense and widespread fire. This conclusion is strengthened by the fact that, like the glassware, only a minimal number of the Event 59 ceramics exhibit heat or fire exposure, excepting of course objects used over a heat source during food preparation (Drakich 1979: pers. com.).

As far as the date of the context is concerned, the data suggest that the glassware represents part of a gradual accumulation of household goods by the occupants since the stylistic date range is fairly broad, encompassing as it does most of the first half of the 18th century. The stratigraphic and crossmend information imply a short period of deposition for the context, however. As by far the majority of the artifacts are of probable French origin the context appears to date to the latter part of the first French occupation and, given that cannonballs were found among the debris, a date of ca. 1745 does not seem unreasonable. Again the ceramics assemblage appears to confirm this conclusion as obviously later British ceramic types are not present in Event 59 and a 1740s deposition date is comfortable for the types present (Drakich 1979: pers. com.).

The archaeologist concludes in his report that although Event 59 may not represent the intact belongings of the occupants at the time of the siege, the artifact distribution might correlate with the pre-siege distribution and therefore room location and use might be determined. He has suggested that the main kitchen/living room was located in the southeast corner and that a small room used for the storage of similar kitchen-related goods was situated in the northwest corner. The glassware vessel distribution can be interpreted as additional data in support of this interpretation. The largest glassware concentration of domestic or kitchen-related artifacts was roughly located in the southeastern two-thirds of the house and would appear to imply that the southeast room was quite large. However the minor concentration of drinking glasses in the northwest suggests to the author that a fairly good sized room, possibly with the west fireplace in it, may have been located there. The location of main rooms in the southeast and northwest corners agrees with the historian's interpretation of the 1733 inventory for the house, but the southerly location of the fireplaces does make it possible that the second documented living area was actually located in the southwest corner. Like the southeast room, the northwest room appears to have been used for the storage and use of domestic artifacts but only to a minor degree. In addition to these rooms, the heavy concentration of stemware vessels against the north cheek of the east fireplace suggests to the author that goods seldom used were stored either in a cabinet, on shelving, or in cases, and possibly in a separate small room.

Interestingly enough, all of the artifact groups (ceramics, glass, architectural hardware, window glass, smoking pipes, etc.) had virtually the same distribution patterns when the sherd density data were examined by the archaeologist (Council 1975: Apps. 3-A - 3-J). The major concentration of artifacts was in the southeastern two-thirds, particuarly in 2L80X, and a minor concentration was in the northwest corner. This gave Council reason to consider the possibility that either the destruction of the house had not been complete or that the artifact locations did not correlate with their pre-deposition locations as strongly as he had thought. One explanation of the distribution may be that the debris was extensively moved from the west into the eastern area of the house during the post-deposition restoration attempts. However the lack of glassware crossmends between these two areas would appear to reject this possiblity. Another, more plausible explanation of the total artifact distribution may be that the western portion of the house was abandoned and thoroughly stripped of architectural and other artifactual materials prior to the abandonment of the eastern portion. The house was originally a duplex and although the entire structure was being used as a single residence in 1733, it is possible that only the east section was in actual use in the 1740s. It is true that the majority of the cannonballs were found in the western half (Council 1975: App. 1) but this does not necessarily mean that that part of the house was abandoned for this reason. In fact, the lack of debris found in that area could be interpreted as a strong indication of prior abandonment, and hence little actual damage may have been suffered in that part of the house despite the number of cannonballs.

The extension of the major concentration of sherds and glassware vessels west of the north-south centre line may well have been due to scattering at the time of deposition or post-deposition disturbances, or it may even be indicative of a north-south wall partition further west than had been thought, perhaps through 2L81L and 2L81M. This would mean that none of the original passage partitions were left and that the eastern portion of the building was approximately twice the size of the western portion just prior to deposition.

The heavy concentration of artifacts in the eastern two-thirds does indicate that this section was probably in use up until the deposition of Event 59. The large number of artifacts found in this section may also be due to the fact that the attic above that area undoubtedly held goods and furnishings and would have contributed to the bulk of the debris found in Event 59. The isolation of the tableware in 2L80Y, both in terms of the small area of concentration and its lack of crossmends, may be an indication that these vessels were located in the attic at the time of abandonment.

It is quite possible that the 1745 siege was reason for the total abandonment of the house by its French occupants, either simply because the fortress was under siege and safe shelter had to be sought or because severe enough damage was sustained by the structure to force the occupants to leave. It is also possible, however, that the house was abandoned prior to the siege or was only fully abandoned when the siege was over and the occupants were sent away from Louisbourg. The latter would explain the large amount of artifacts left in the house and appears more likely than the former. Although the glassware from this context does not reflect continued occupation of the Dugas house during the New England occupation, it is difficult to say whether it would reflect the use of the structure as a stable.

Given that the Dugas house was damaged in the siege and probably abandoned just prior to, during or shortly afterwards, the glassware assemblage lends itself to some further interpretation. The notable lack of a substantial number of container vessels, not only in glass but also in ceramics (Drakich 1979: pers. com.), may indicate that the occupants took most of the food and liquor away with them in order to sustain themselves when they went to a safer shelter, such as the casemates, during the siege, and/or when they were transported to France. This would explain why so few containers were found and yet why so many serving vessels were located in Event 59. However, even if the containers were intentionally removed from the house prior to deposition, the amount of drinking vessels found is still disproportionately high. This is the case not only with the glassware assemblage where almost the entire tableware class is made up of drinking glasses but also with the ceramics assemblage where there is a large number of hot and cold beverage drinking vessels (Drakich 1979: pers. com.). These amounts of drinking vessels suggest that a great deal of drinking was going on in the house, possibly even on a commercial basis. As well, the large number and apparent sets of seemingly unused stemware may indicate that these items were being bought in bulk. It is also possible that these glasses were intended for sale and not for actual use on the premises.

It has been concluded by the historians that the combined Dugas-de la Tour family may have been in residence in the Dugas house until the end of the first French occupation. The glassware unfortunately cannot offer much information about the inhabitants. The types present serve very basic functions and are largely geared to the consumption of food and drink as one would expect. Glass containers were being used for food, liquid and liquor storage, and also for the dispensing of medicine or the storage of precious oils or perfumes; glass tableware vesels were being used for drinking beverages and possibly also for eating desserts. There is a lack of specialized glassware vessels, tableware or otherwise, but at least some specialized forms, such as cruet stands and vases, are present in the ceramics assemblage (Drakich 1979: pers. com.). Despite the absence of specialized forms, the glassware does indicate that the occupants had the economic ability and taste to purchase good quality French and British goods in a wide range of styles and in fairly substantial quantities. The single inkwell suggests that at least one of the inhabitants could write. A comfortable middle class or bourgeois lifestyle appears to be suggested by the artifacts.

To summarize briefly the foregoing discussion, the analysis of the glassware from the reputed siege debris context, Event 59, indicates that the Dugas house suffered damage during the 1745 siege but was not destroyed by burning. It seems probable that the eastern portion of the house was in active use up until the approximate time of the siege and had been for some time. Whether the structure was abandoned just prior to, during or shortly after the siege is difficult to determine but it seems likely that Event 59 was deposited over a fairly short period of time and quite probably either was caused or hastened by the damage the house received from cannon fire. The low numbers of food and liquor storage containers may indicate that food supplies were taken from the house prior to deposition in order to sustain the occupants in another location. The extremely high numbers of drinking glasses, in particular stemware, suggest that commercial activities may have been taking place in the house. Finally, the large stylistic variety present in the glassware assemblage suggests that a bourgeois household was in residence in the Dugas house prior to 1745.

PART II A DESCRIPTIVE CATALOGUE OF THE GLASSWARE

INTRODUCTION

The descriptive catalogue has been prepared for four reasons. First, it was felt that an evaluation of the analysis and conclusions in this report could best be made if the raw data were presented in fairly detailed form. Second, it is hoped that this catalogue will provide data which can be used for comparative purposes in other archaeological or artifact research projects involving French colonial contexts and particularly other Louisbourg contexts. Third, it is also hoped that the catalogue will add to the volume of data already available on 18th century glassware and in particular will contribute useful information on French glassware, a little studied or published subject. Finally, it is felt that the descriptions and illustrations of the glassware from just one context will provide an insight for those unfamiliar with the extensive and yet largely unstudied or published archaeological artifact collections at the Fortress of Louisbourg.

The catalogue basically describes all of the glassware vessels and sherds of note in the Event 59 assemblage. The actual cataloguing was carried out by the author over a three-month period in 1978 and, generally speaking, it was fairly conservative. Sherds were only placed in specific functional or stylistic categories if they could be quite safely identified as such, resulting in certain cases in rather large undiagnostic sherd counts. The sherds were also catalogued in such a way as to allow freedom in the later determination of the minimum vessel count. Since the mending and crossmending had been done prior to the cataloguing, catalogue numbers were assigned with the confidence that one vessel, so to speak, would not be made up of sherds with more than one catalogue number. For example, if in any one lot there was a dark green bottle base, miscellaneous body sherds and several finishes, all of the "wine" variety, the base was given one number, the group of body sherds another and each of the finishes another, rather than arbitrarily assigning the base and body sherds to a particular finish. Thus each of the possibly diagnostic body parts was generally given an individual catalogue number if there was nothing to positively identify it with another artifact, such as an actual or probable mend, or a unique colour or configuration.

The glass was catalogued on temporary forms prepared by Material Culture Research, Research Division (Archaeology), National Historic Parks and Sites Branch for input into the history data base of the National Inventory System (National Museums of Canada). Due to technical difficulties with the system the catalogue data have not yet been entered; the forms were used and sorted manually during the course of the project. The descriptive details recorded on the forms were those felt to be of use in the identification and analysis of the artifacts and also in the control of the collection.

In the descriptive catalogue, these raw artifact data have generally been sorted and synthesized into the functional/stylistic organization of the minimum vessel count, that is, the artifacts are spoken of in terms of classes, types, varieties, styles and forms (App. B). Likewise, the sherd count for the glassware has been organized into a chart form similar to that used for the minimum vessel count to allow for comparison (Tables 1 and 2).

Each section of the descriptive catalogue generally consists of a brief introductory statement discussing the category, followed by a page of specific catalogue data in a structured format which faces a page of appropriate illustrations. The introduction in most cases discusses the category as a whole in terms of definition, kind of glass, manufacture, basic characteristics, further classification categories, plus anything unique or unusual. As well, information on date of manufacture and country of origin is discussed where possible. This is also where the actual or possible configuration of a vessel is discussed if its full configuration is not present in the Event 59 assemblage or is unknown. The catalogue data page on the other hand contains information on only what is extant in that category in the assemblage. The data are broken down under the following headings:

Vessels: This is the number of vessels in the category in the minimum vessel count.

Sherds: This is the number of sherds (including sherds making up the above vessels) in the category in the assemblage.

Catalogue numbers: These are the identifying numbers, in sequential order, of the above sherds. In order to find out which of these represent vessels, *see* Appendix C.

Description: Each of the extant parts is described.

Decoration: Decoration, if any, on each of the extant parts is described (tableware only).

Dimensions: These are measurements that have been found to be useful in artifact identification and research. Only those measurements available from within the Event 59 assemblage are given. Generally the measurement is expressed as a mean, followed by the range and number of measurable examples, except where only one measurable example is present. All of the measurements have been taken in millimetres, millilitres or grams.

Manufacture: This section is sometimes very brief if manufacture has been discussed in some detail in the introduction. Since all of the artifacts are mouth blown (either free or mould blown) and empontilled, these facts are not necessarily mentioned.

Colour: The colour of the glass (not the patina) is given in a brief, verbal description. Colour charts have not been used.

Published illustrations: This final heading has been added to provide references to published and therefore available illustrations of comparable objects. It also demonstrates, however, how few sources have been published to date on French 18th century glassware, particularly tableware. Under this heading, only references to *photographs* of exact, or as near as possible exact, duplicates of the Event 59 artifacts are given. If the Event 59 examples are fragmentary and the exact configuration unknown, no reference is given, however in some cases references to illustrations of somewhat or possibly comparable features and/or objects are given in the introductory texts. Certain National Historic Parks and Sites Branch reports have been used (Alyluia 1975, Harris 1978 and McNally 1974) and in the case of Harris and McNally, used very extensively for the identification of the artifacts. These reports are cited in the category introductions but their illustrations have not been referenced due to the general unavailability and draft format of the manuscripts.

In addition to the above headings the condition of the glass is occasionally added if notable for some reason. In some cases the country of origin, date of manufacture and kind of glass are also provided although generally this information, when available, is given in the introductory statement.

The illustrations facing the catalogue data pages are restricted to those artifacts which were on hand in Ottawa during the writing of the report and are of artifacts from the Event 59 assemblage in most instances. In three cases more complete artifacts from other events of the Dugas house excavations are shown and in two other cases drawings of Event 59 fragments have been added to copies of previously prepared illustrations of more complete vessels from a Louisbourg Block 1 provenience. Wherever size has permitted, the illustrations portray the vessels or sherds as their actual size, or as near as possible given that there is usually some element of distortion in photographs.

CONTAINERS

The container glass from Event 59 has been divided into four functional types plus an additional, miscellaneous category for those vessels of unidentified function. The first type is beverage bottles, that is, dark green glass bottles of a large capacity made for the storage of wine and/or spirits. Two varieties are present in the assemblage: the so-called "wine" bottle and the case bottle. The second type of container is the *flacon*, that is, a French storage vessel, generally made of "blue-green bubbled" glass, which could have been used for the storage of any number of foods or liquids. Again two varieties of *flacon* are present: narrow-mouthed ones for liquid storage and wide-mouthed ones for food storage. The third type of container is the medicine vial of which there are three varieties, each represented by a single example. The fourth container type is a single complete example of an inkwell. Finally, in the miscellaneous category, there are four vessels which due in part to their incompleteness have not been identified as to a specific function other than "container."

Beverage Bottles

As stated above, two varieties of beverage bottle have been identified using a broad definition of a bottle of dark green glass used for the storage of alcoholic beverages, such as wine and spirits. This type of bottle was most often of approximately reputed quart capacity or larger, but half- and quarter-size bottles were also made and used for the same purposes.

Numerically the largest variety present in Event 59 is the "wine" bottle of which there are both French and British styles present in a range of forms. The other variety is the case bottle of which there is but one basic style present.

"Wine" Bottles

"Wine" bottle is a descriptive term commonly used in reference to a specific group of dark green glass bottles, despite the fact that these bottles could have been used to hold any type of alcoholic beverage, or anything else for that matter, and were not restricted solely to wine storage. The "wine" bottle of the first half of the 18th century was either free blown or the body was formed in a one piece dip mould. Body shapes commonest on French sites in North America vary from the so-called French "flower-pot" shape to the British "onion," "mallet" and short, cylindrical shapes. Shoulder shape varies with body shape, but necks are generally tapered and at least as long as half the body height. The standard "wine" bottle finish at this time consisted of a cracked off and fire-polished lip, and a string rim or thread of glass applied around the neck below the lip. The string rim was often tooled, particularly on British bottles. The bottle bases always have fairly deep push-ups and the push-up mark is generally discernible, except in the case of the French bottle push-ups which were formed by a tool, such as the *molette*, seldom leaving any marks. Pontil marks are always present, with the French being of a different type and size from the British (Jones 1971). Because of these basic shape and manufacturing differences, it has been possible to divide the "wine" bottles into two main styles, French and British, and to examine the various forms present of each country's style.

The first form of French "wine" bottle (Figs. 4, 5) is the standard one commonly found on all French colonial sites in North America. The body has been termed a "flower-pot" by Noël Hume (1961: 105) and is distinctively tapered towards the base. This is a form which does not appear to have changed during the 18th century and thus it is not possible to use it as a dating aid on sites such as Louisbourg which already have a narrow date. The second form of French "wine" bottle (Fig. 6) is a peculiar vessel which for lack of any evidence of function to the contrary has been categorized as a "wine" bottle because of its colour, size and proportions. It is assumed that the finish was of the "wine" variety although all of the finishes considered in Form A are too thick and heavy to have belonged to this bottle. The body is ovoid in shape and the glass is quite thinly and evenly distributed throughout. On the basis of its small, glass-tipped pontil mark it has been given a French ascription.

British "wine" bottles are present in two very different forms plus a third miscellaneous group of bases and finishes for which the total bottle forms are unknown. Stylistically the restorable bottles (Forms A and B) range in date from ca. 1715 to 1745 and the miscellaneous sherds fall in with these as far as can be determined. The examples in the miscellaneous group are considered in relative chronological order and no precise dates have been given; for example, 2L80T11-11 (Bases: 1) probably dates somewhat earlier than those in Bases: 2 because of its larger base diameter. With regard to the specific forms present in the Event 59 assemblage, Form A (Fig. 7) is a fairly uncommon shape of British bottle and is sometimes referred to as a "bastard" bottle as similar examples exist with seals embossed with the surnames "Bastard" and "Basturo" (Noël Hume 1961: 107; Jones, "wine" bottle data on file, National Historic Parks and Sites, Ottawa). Form B, the mallet-shaped bottle (Fig. 8), has been given an English ascription on the basis of both its shape and manufacturing characteristics (for example, the sand pontil mark), but it is worth mentioning that bottles of similar appearance have been designated Dutch and assigned a similar date range (McNulty 1971: 116-17, Figs. 55, 56). However the specific manufacturing characteristics of the Dutch bottles are not known at present, so a British ascription for this bottle is felt to be most reasonable. In the miscellaneous group (Figs. 9-12), 2L80T11-10 (Finishes: 1) has a rather peculiar shape with its flaring bore (Fig. 9), but it does appear to be of the general British style. In Bases: 2, one base (2L80T11-9) has had lettering scratched on the push-up, just above the resting surface (Fig. 12b). The major part of the lettering is missing unfortunately but "1(or 7)th----AM(or N)" can be made out. It is possible that this was someone's name and that the scratching was done to denote ownership of the bottle.

A number of dark green glass sherds could be identified as coming from "wine" bottles but it has not been possible to determine the country of origin. There are also nine sherds (2L80X9-14, 2L81A7-6) of the French "blue-green bubbled" glass which may have come from "wine" bottles. For a discussion of these bottles, which in form are just like the standard dark green French "wine" bottles, the reader is referred to Harris (1978).

Case Bottles

Dark green glass case bottles (Figs. 13, 14), that is, large, square-sectioned bottles made for storage in wooden boxes or cellars, are commonly found on North American historical archaeological sites dating from the 17th century onwards. Like the "wine" bottles, they have come to be associated with one particular type of alcoholic beverage, in this case gin, but there is little evidence to substantiate this. Rather, they were probably used for storing a wide variety of beverages. As well, they are associated with Holland, but again there is little to support this (Noël Hume 1961: 105-7). It is quite possible that dark green case bottles were being made wherever other dark green glass bottles were being manufactured. Because of this lack of specific information on case bottles, ascription cannot be determined at this time. As far as dating is concerned, the shape of the case bottle did change through time but not rapidly enough to provide a tight date for the examples found in Event 59. For these it is only possible to say the late 17th or 18th century.

There is basically only one style of dark green case bottle present in the Event 59 assemblage. This is best represented by a restorable example, 2L80X9-5, which has consequently provided most of the measurements given. There is one other finish present (2L80X9-17) which varies only slightly in shape and from which some measurements could be obtained. As well, there are some miscellaneous body sherds which could be identified as coming from case bottles.

"Wine" Bottles - French, Form A

Vessels: 6
Sherds: 110
Catalogue numbers: 2L80B22-7, 2L80X9-7, 2L80X9-18, 2L80X9-19, 2L80X9-22, 2L81D4-2, 2L81D4-13, 2L81D4-14, 2L81D4-15, 2L81F7-12, 2L81G8-7
Description:
- finish - two part
- lip - flat on top
- string rim - untooled; flattened horizontally on top and sometimes on bottom
- neck - tapered
- shoulder - sloping
- body - round in horizontal cross-section with tapered sides
- heel - rounded
- resting surface - even
- basal profile - low bell; rounded conical with slight bulge due to empontilling

Dimensions:
- bore diameter: $\bar{x}$ = 19.23 mm (17.0 mm - 21.2 mm; 5 examples)
- lip to string rim height: $\bar{x}$ = 7.5 mm (4.1 mm - 12.8 mm; 6 examples)
- string rim height: $\bar{x}$ = 6.1 mm (4.4 mm - 8.3 mm; 7 examples)
- finish height: $\bar{x}$ = 14.0 mm (9.5 mm - 20.95 mm; 6 examples)
- neck-finish height: 121.3 mm (1 example)
- body height: 87.0 mm (1 example)
- base diameter: $\bar{x}$ = 103.25 mm (99.5 mm - 107.0 mm; 2 examples)
- push-up height: $\bar{x}$ = 31.7 mm (26.95 mm - 36.5 mm; 2 examples)
- pontil mark diameter: $\bar{x}$ = 27.5 mm (27.1 mm - 27.9 mm; 2 examples)
- vessel height: 252.0 mm (1 example)

Manufacture: dip moulded body; cracked off and fire-polished lip; applied and sometimes tooled string rim; push-up possibly formed with a *molette*; glass-tipped pontil mark.
Colour: dark green
Condition: some examples are heavily patinated
Published illustrations:
- Brain 1970: 5, Fig. 4 (the fourth to the eighth bottles from the left)
- Genêt, Vermette and Décarie-Audet 1974: 57-8, B-20, B-21
- Hanrahan 1978: 62, Fig. 6
- Lafrenière and Gagnon 1971: 70, Photo 42
- Marsden 1974: Pl. 20 (upper right photograph: two "wine" bottles at rear, on left)

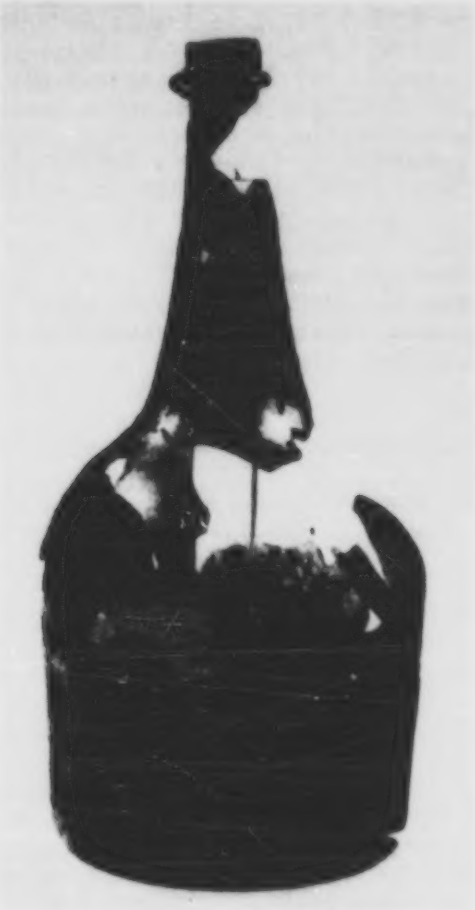

Figure 4. "Wine" bottles - French, Form A. Front view of restorable example (2L80X9-7). (Photo by R. Chan; RA-7671B.) Scale: one-half life-size.

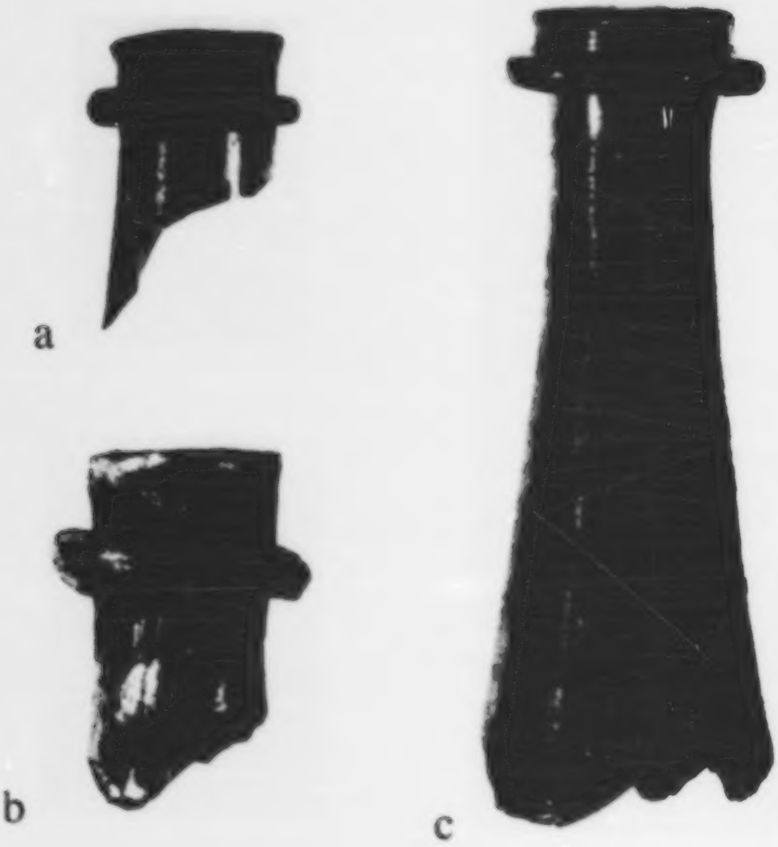

Figure 5. "Wine" bottles - French, Form A. Front views of finishes: a, untooled string rim (2L81D4-2); b, largely untooled string rim but with some horizontal flattening present (2L80X9-19), and c, horizontally flattened string rim (2L80B22-7). (Photos by R. Chan; RA-6686B, RA-6693B, RA-6692B.) Scale: life-size.

"Wine" Bottles - French, Form B

Vessels: 1
Sherds: 23
Catalogue number: 2L80X9-8
Description:
neck - tapered
shoulder - non-existent on short sides, abruptly rounded on long, flattened sides
body - basically a globular form that has been flattened on two sides and is thus ovoid in horizontal cross-section
heel - rounded
resting surface - uneven
basal profile - bulged conical
Dimensions:
body height: 95.0 mm
resting surface dimensions: 87.5 mm by 71.0 mm
push-up height: 24.35 mm
pontil mark diameter: 20.2 mm
Manufacture: free-blown body, tooled into a flattened, ovoid shape; pointed push-up mark; glass-tipped pontil mark.
Colour: dark green
Published illustrations: none located

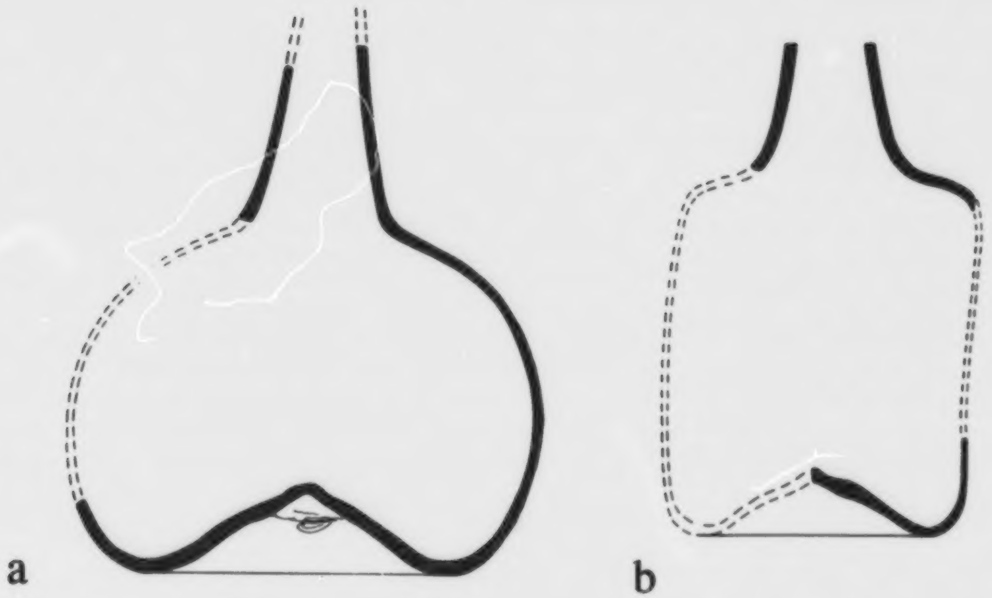

Figure 6. "Wine" bottles - French, Form B: a, cross-section of front view, and b, cross-section of side view (2L80X9-8). (Drawings by K. Gillies.) Scale: one-half life-size.

"Wine" Bottles - British, Form A

Vessels: 1
Sherds: 26
Catalogue number: 2L80X9-1
Description:
  finish - two part
  lip - flat on top
  string rim - V-shaped
  neck - tapered
  shoulder - non-existent
  body - bladder shaped, that is, ovoid in horizontal cross-section, with two slightly flattened sides
  heel - rounded
  resting surface - uneven (bottle rocks back and forth on two resting points)
  basal profile - bell
Dimensions:
  bore diameter: 19.25 mm
  lip to string rim height: 3.5 mm
  string rim height: 8.0 mm
  finish height: 9.8 mm
  neck-finish height: 62.2 mm
  resting surface dimensions: 112.15 mm by 100.5 mm
  push-up height: 39.2 mm
  push-up mark dimensions: 33.4 mm by 33.4 mm
  pontil mark diameter: 55.4 mm
  vessel height: 190.0 mm
Manufacture: free-blown body, tooled into a flattened, bladder shape; cracked off and fire-polished lip; applied and tooled string rim; lightly applied quatrefoil push-up mark; sand pontil mark.
Colour: dark green ("black" glass)
Date: ca. 1715-30
Published illustrations:
  Morgan 1976: 51 (1725 dated seal)
  Munsey 1970: 61 (1716 dated seal)
  Ruggles-Brise 1949: Pl. 3, facing p. 112
  Wills 1974: Pl. 2, facing p. 34 (1723 dated seal)

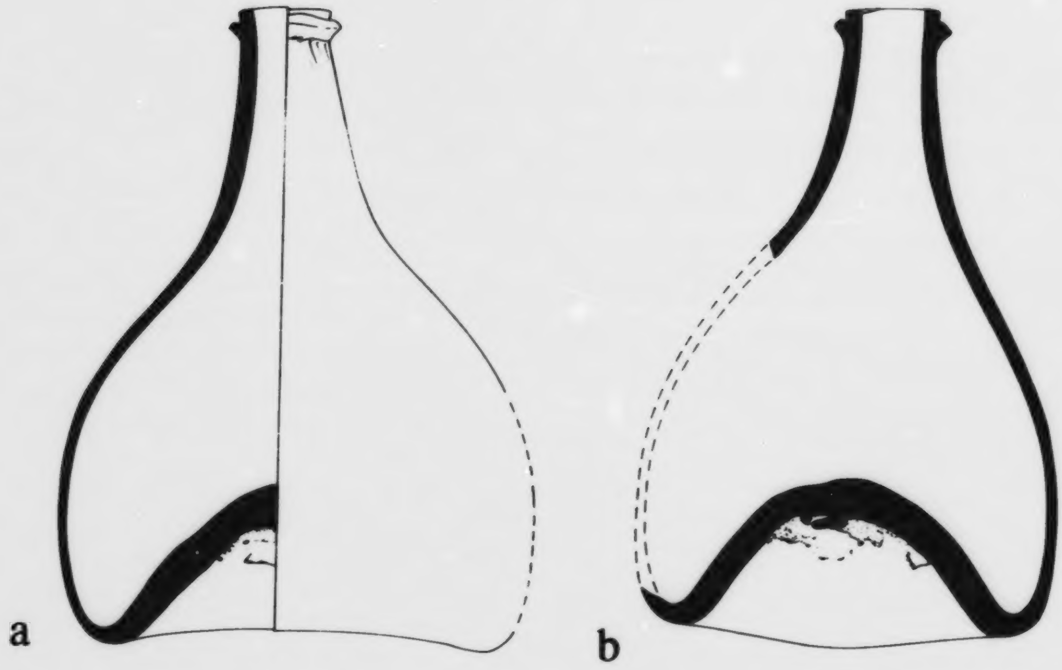

Figure 7. "Wine" bottles - British, Form A: a, cross-section and plan of front view, and b, cross-section of side view (2L80X9-1). (Drawings by D. Kappler.) Scale: one-half life-size.

"Wine" Bottles - British, Form B

Vessels: 1
Sherds: 13
Catalogue number: 2L80X9-24
Description:
  finish - two part
  lip - slightly everted and rounded
  string rim - V-shaped/down tooled
  neck - tapered
  shoulder - rounded/sloping
  body - mallet shaped, that is, basically round in horizontal cross-section with the body wider at the base than at the shoulder
  heel - rounded
  resting surface - slightly uneven
  basal profile - bell
Dimensions:
  lip to string rim height: 4.0 mm
  string rim height: 5.4 mm
  finish height: 8.5 mm
  neck-finish height: 78.65 mm
  body diameter at shoulder: 118.0 mm
  body height: 80.0 mm
  base diameter: 128.85 mm
  push-up height: 37.3 mm
  push-up mark diameter: undefined
  pontil mark diameter: 50.5 mm
  vessel height: 188.0 mm
Manufacture: free-blown and marvered body; cracked off and fire-polished lip; applied and tooled string rim; amorphous push-up mark; sand pontil mark.
Colour: dark green
Date: ca. 1725-45
Published illustrations:
  Noël Hume 1969a: 36, Fig. 26
  Watkins 1968: 146, Fig. 78 (1737 dated seal)

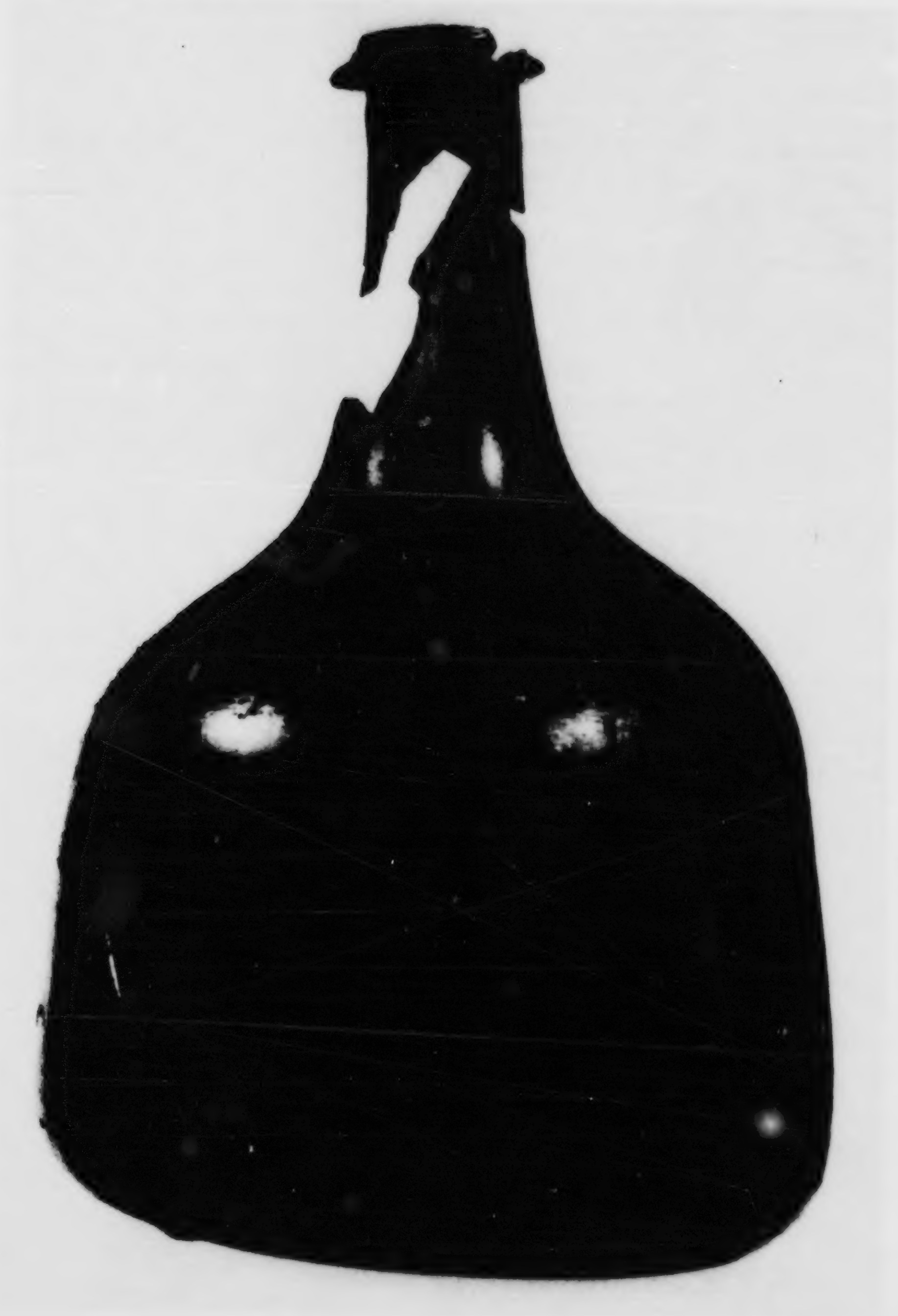

Figure 8. "Wine" bottles - British, Form B. Front view (2L80X9-24). (Photo by R. Chan; RA-7036B.) Scale: life-size (width is slightly distorted).

"Wine" Bottles - British, Miscellaneous Finishes and Bases

Vessels: 3
Sherds: 15
Catalogue numbers: 2L80B22-6, 2L80C16-2, 2L80T11-9, 2L80T11-10, 2L80T11-11, 2L80X9-21, 2L81F7-11, 2L81G8-6
Colour: dark green ("black" glass)
Date: first half of the 18th century
Finishes : 1. 2L80T11-10
Description:
finish - two part
bore - flared at lip
lip - slightly everted with a thickened profile
string rim - down tooled/V-shaped
neck - strongly tapered
Dimensions:
bore diameter: 22.1 mm
lip to string rim height: 7.35 mm
string rim height: 5.15 mm
finish height: 11.45 mm
neck-finish height: 76.7 mm
Manufacture: cracked off and fire-polished lip, with some tooling to produce the flaring bore and thickened lip profile; applied and tooled string rim.

2. 2L80B22-6, 2L80C16-2
Description:
finish - two part
bore - slightly flared at lip
lip - flat on top
string rim - down-tooled
Dimensions:
bore diameter: $\bar{x}$ = 19.3 mm (19.0 mm - 19.65 mm)
lip to string rim height: $\bar{x}$ = 4.55 mm (3.5 mm - 5.6 mm)
string rim height: $\bar{x}$ = 4.55 mm (4.3 mm - 4.8 mm)
finish height: $\bar{x}$ = 8.3 mm (8.0 mm - 8.6 mm)
Manufacture: cracked off and fire-polished lip; applied and tooled string rim.

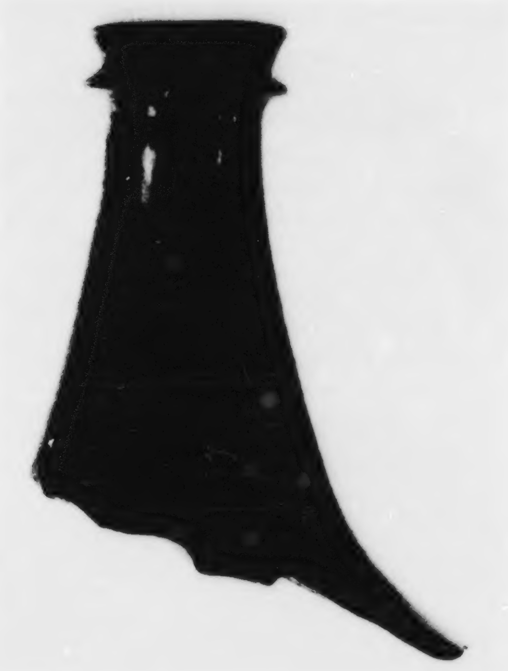

Figure 9. "Wine" bottles - British, miscellaneous finishes: 1. Front view (2L80T11-10). (Photo by R. Chan; RA-7042B.) Scale: life-size.

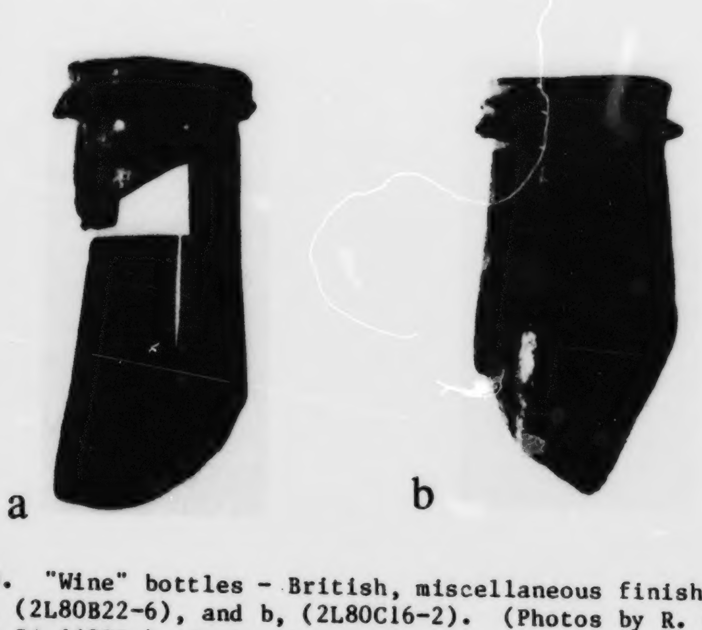

Figure 10. "Wine" bottles - British, miscellaneous finishes: 2. Front views: a, (2L80B22-6), and b, (2L80C16-2). (Photos by R. Chan; RA-7043B, RA-6690B.) Scale: life-size.

"Wine" Bottles - British Miscellaneous Finishes and Bases (cont'd)

Bases :

1. 2L80T11-11
   Description:
   - body - round in horizontal cross-section
   - heel - rounded
   - resting surface - uneven
   - basal profile - shallow bell

   Dimensions:
   - resting surface diameter: 117.0 mm
   - push-up height: 22.8 mm
   - push-up mark dimensions: ca. 40.0 mm by 40.0 mm
   - pontil mark diameter: 57.75 mm

   Manufacture: free-blown body probably; lightly applied quatrefoil push-up mark; sand pontil mark.
2. 2L80T11-9, 2L80X9-21, 2L81F7-11, 2L81G8-6
   Description:
   - body - round in horizontal cross-section
   - heel - rounded with basal sag on two examples (2L80T11-9, 2L81F7-11)
   - basal profile - dome (1); parabolic (1); probable bell or rounded conical (2)

   Dimensions:
   - base diameter: 125.0 mm (1 example, 2L80T11-9)

   Manufacture: mouth-blown body (unable to tell whether free blown or dip moulded); indeterminate push-up mark as only partly present; sand pontil mark.

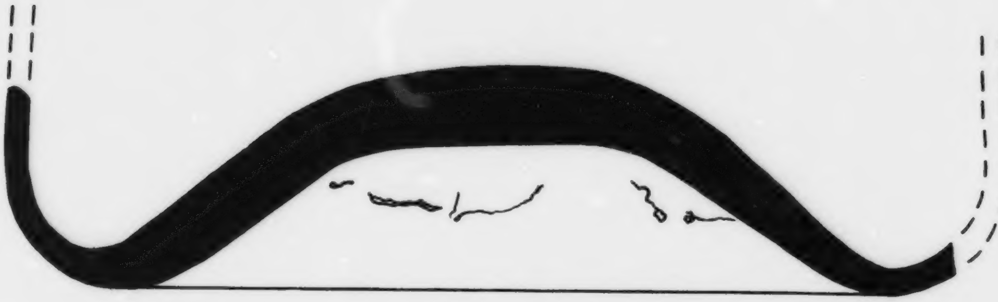

Figure 11. "Wine" bottles - British, miscellaneous bases: 1. Cross-section (2L80T11-11). (Drawing by K. Gillies.) Scale: life-size.

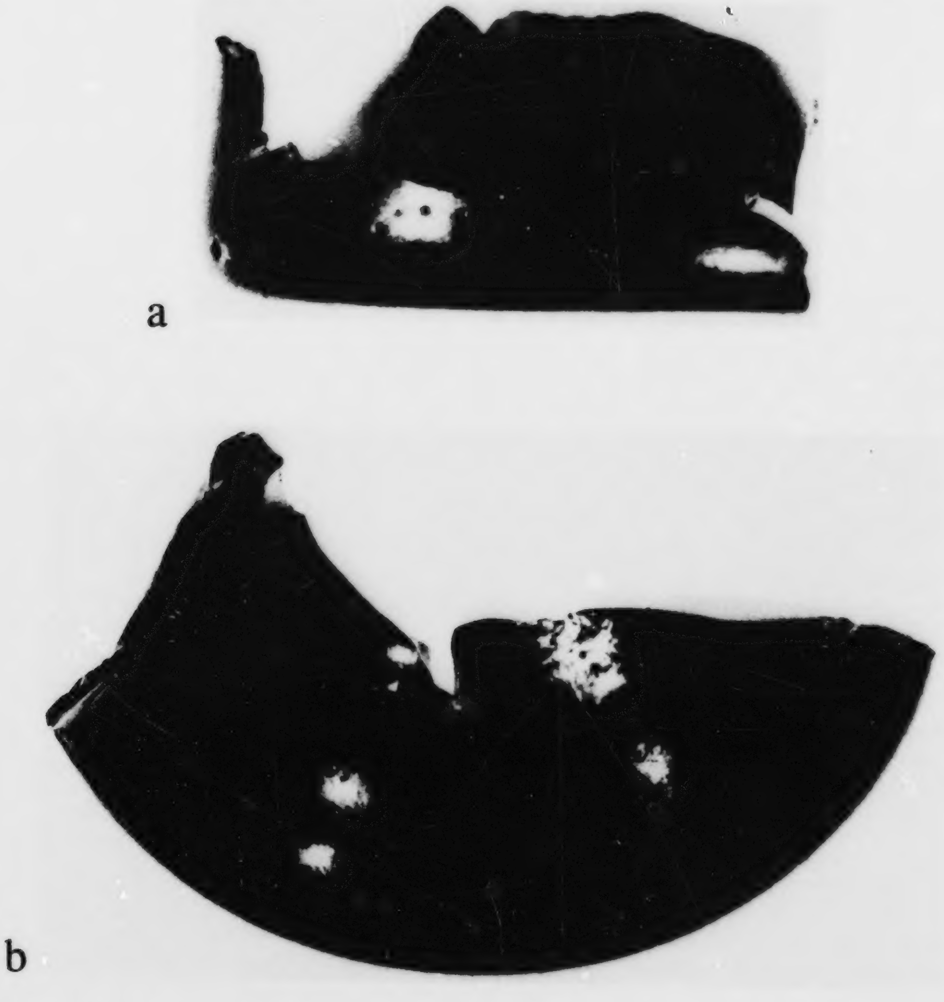

Figure 12. "Wine" bottles - British, miscellaneous bases: 2: a, front view, and b, base view showing scratched lettering (2L80T11-9). (Photos by R. Chan; RA-7040B, RA-6417B.) Scale: life-size.

Case Bottles, Style 1

Vessels: 2
Sherds: 63
Catalogue numbers: 2L80X9-5, 2L80X9-17, 2L81D4-10, 2L81G8-5
Description:
  finish - two part
  bore - flared at lip
  lip - slightly rounded
  string rim - untooled
  neck - basically straight; tapered
  shoulder - horizontal
  body - basically square in horizontal cross-section with slightly tapered sides
  heel - abrupt
  resting surface - four point
  basal profile - shallow
Dimensions:
  bore diameter: 25.0 mm (1 example)
  lip to string rim height: $\bar{x}$ = 3.6 mm (2.5 mm - 4.7 mm; 2 examples)
  string rim height: $\bar{x}$ = 4.4 mm (4.4 mm - 4.45 mm; 2 examples)
  finish height: $\bar{x}$ = 6.9 mm (5.05 mm - 8.75 mm; 2 examples)
  neck-finish height: $\bar{x}$ = 22.1 mm (20.2 mm - 24.0 mm; 2 examples)
  body dimensions at shoulder: 112.7 mm by 113.3 mm (1 example)
  body height: 231.0 mm (1 example)
  base dimensions: 105.3 mm by 106.2 mm (1 example)
  push-up height: 17.0 mm (1 example)
  push-up mark dimensions: 91.0 mm by 91.0 mm (1 example)
  pontil mark diameter: interior: 13.2 mm (1 example)
                        exterior: 39.6 mm (1 example)
  vessel height: 273.0 mm (1 example)
Manufacture: dip-moulded body; cracked off and fire-polished lip (the lip has been thinned and tooled outwards on 2L80X9-5 to produce a flared bore); applied string rim; an indented "X" push-up mark crossing to opposite corners; blowpipe pontil mark.
Colour: dark green
Condition: 2L80X9-17 is heavily patinated and deteriorated
Published illustrations:
  McNulty 1971: 103, Fig. 13

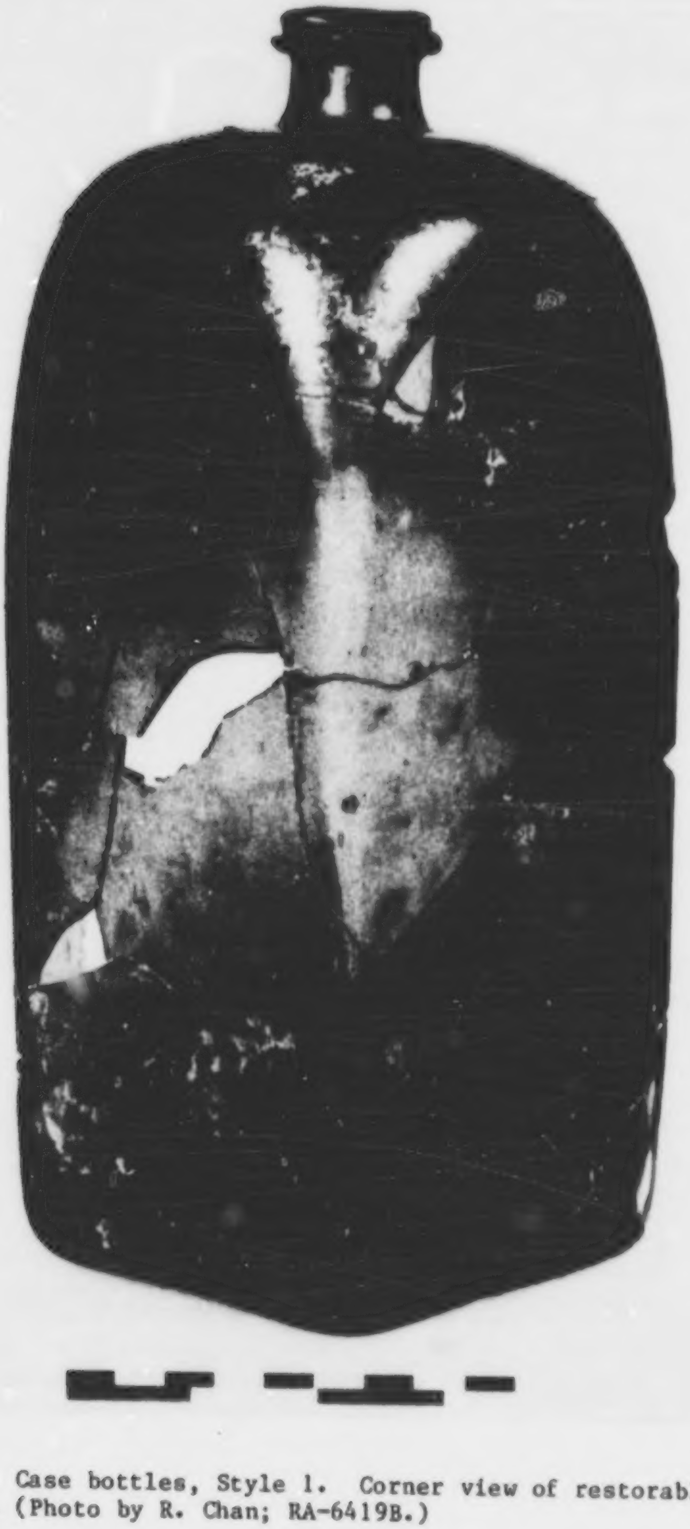

Figure 13. Case bottles, Style 1. Corner view of restorable example (2L80X9-5). (Photo by R. Chan; RA-6419B.)

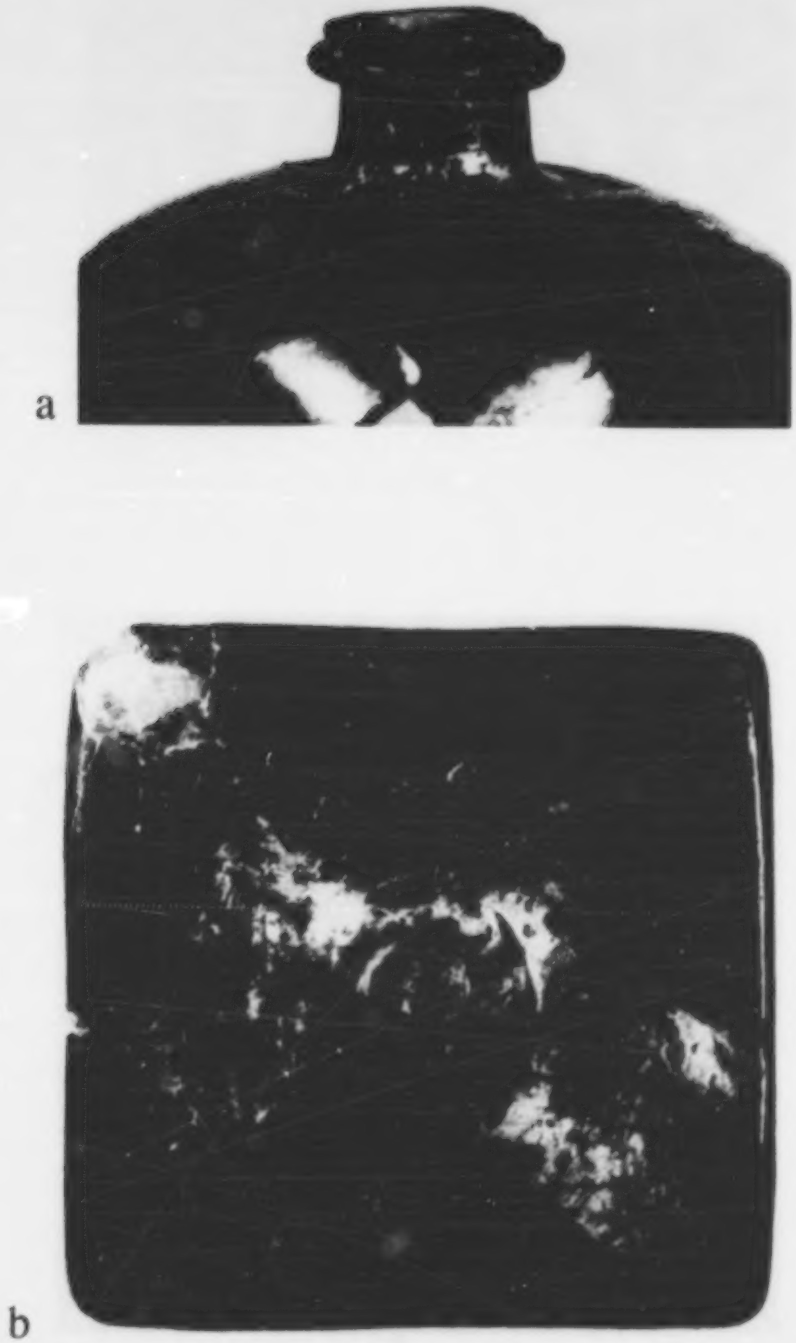

Figure 14. Case bottles, Style 1: a, front view of finish, and b, base view showing blow-pipe pontil mark and indented "X" (2L80X9-5). (Photos by R. Chan; RA-6418B, RA-7037B.) Scale: life-size.

*Flacons**

The term *flacon* has been chosen to describe this particular type of container because documentary evidence for Louisbourg implies that these containers were commonly referred to as *flacons* at that time and because they are of French origin. *Flacons* were apparently multi-purpose containers that were used for holding and storing such things as oil (both olive and palm), preserved and brandied fruits, anchovies, capers, syrup, and at times, wine and spirits. They were imported to Louisbourg both empty and full, and were often packed in cases built for varying numbers of bottles.

The container type *flacon* generally occurs in blue-green glass that is heavily and evenly seed bubbled and thus familiarly referred to as "blue-green bubbled" to distinguish it from other blue-green glass. The containers were manufactured with the use of dip moulds and generally the push-ups were formed partially by the mould and then by a tool such as the *molette*, thus leaving no actual push-up mark. The vessels come in a range of shapes and sizes, all of more than 15 ounce capacity. No tight dates are known for any of these vessels, in fact they appear to have changed very little throughout the entire 18th century.

The *flacons* in this assemblage have been divided into two varieties on the basis of shape and function: narrow-mouthed ones which would have been used for holding liquids, and wide-mouthed ones which would have been used for holding solid foods.

Narrow-Mouthed *flacons*

There are three styles of narrow-mouthed *flacons* represented in Event 59. The first, and most common, is the square-sectioned "case" *flacon* with a short, tubular neck-finish (Figs. 15-17). This style has been designated Type 1 by Harris. Two sizes of base are present, the more common being the larger (ca. 72.0 mm by 72.0 mm) which is also the most common size found at Louisbourg generally. Of note with regard to the bases are two which exhibit signs of embossing, not uncommon on this style of *flacon*. The smaller base (2L80T11-7) displays only a small part of the embossing but the other base is complete (Fig. 17). Generally the embossing on such bases is decipherable as a letter but this symbol has not been identified. The purpose of the embossing is not known.

The finishes on these square *flacons* vary little with one exception, 2L80T11-6 (Fig. 16b). This was originally categorized as a *fiole* or vial finish due to the narrowness of the bore. Jane Harris (1979: pers. com.), however, feels that the finish could very possibly come from a square *flacon* due to the thickness of the glass. This seems to be a more comfortable identification, especially as the bore diameter does fall just within the range for this style of *flacon*.

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* The information in this section is derived from Jane E. Harris's 1978 report, "Eighteenth-Century French Blue-Green Bottles from the Fortress of Louisbourg, Nova Scotia," unless otherwise stated.

The body height of the square *flacon* is not consistent with the base dimensions. Of two bases of similar size, one (2L80B22-11) has a body height of 157.0 mm, while the other (2L80X9-13) has a body height of ca. 180.0 mm or slightly more.

The second style of narrow-mouthed *flacon* is a "cylindrical"* container, again with a short, tubular neck (Fig. 18). No body or base sherds of this style have been identified but on the basis of finish and shoulder shape two vessels have been identified. Harris labels this style as Type 5, Short-Necked Cylinder *Flacon*, in her report.

The third style of narrow-mouthed *flacon*, designated Type 3 by Harris, is a "cylindrical" container with a tall, tubular neck (Fig. 19). It has a distinct body shape in that it tapers towards the shoulder, indicating that it was marvered into this shape after being removed from the dip mould. Again, this style of *flacon* may well have been shipped and stored in a case.

There are two finishes (2L80B22-9, 2L81D4-8) of this *flacon* variety for which body shape, that is square or "cylindrical," could not be determined due to their fragmentary condition. Both have the one-part finish consisting of the simple cracked off and fire-polished lip. One of the finishes (2L80B22-9) has been damaged by exposure to heat.

Wide-Mouthed *flacons*

The wide-mouthed *flacon* is the 18th century French equivalent of the jar. The finishes are similar to the narrow ones but the bores are considerably wider. Each of the three vessels of this variety present in Event 59 has a different bore diameter, with a range from 60.0 mm to 90.0 mm. This variety of *flacon* occurs with either "cylindrical" or square bodies (Harris Types 8 and 9) but as no shoulder-neck fragments from square containers were found and two from "cylindrical" vessels were, it is probable that all three of the vessels were of the "cylindrical" style. Of note in this style is the one *flacon* that is not made of "blue-green bubbled" glass but rather of a clear green glass, only very lightly seed bubbled. The exact height of the vessels cannot be estimated but Chardin depicts *flacons* which they might have looked like in his paintings "*Le bocal d'olives*" and "*Un bocal d'apricots*" (Wildenstein 1963: Pls. 44, 42).

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* "Cylindrical" is used to conveniently describe a container body which is round in horizontal cross-section and has tapered or slightly tapered sides. Strictly speaking, such a body is not cylindrical, hence the quotation marks.

Narrow-Mouthed *flacons*, Style 1: Square *flacon* with Short Neck

- **Vessels:** 4
- **Sherds:** 58
- **Catalogue numbers:** 2L80B22-11, 2L80T11-6, 2L80T11-7, 2L80X9-13, 2L81F7-7, 2L81L7-8
- **Description:**
  - finish - one part
  - lip - flat on top, with one exception, 2L80T11-6, which has been flared and thickened by tooling
  - neck - straight; slightly tapered towards the shoulder
  - shoulder - horizontal
  - body - basically square in horizontal cross-section with slightly tapered sides
  - heel - abrupt
  - resting surface - four point
  - basal profile - shallow; low dome; low bell
  - basal surface - embossing is present on two of the three bases
- **Dimensions:**
  - bore diameter: $\bar{x}$ = 19.0 mm (18.25 mm - 19.7 mm; 3 examples)
    - : 15.8 mm (1 example, 2L80T11-6)
  - neck-finish height: $\bar{x}$ = 36.75 mm (36.5 mm - 37.0 mm; 4 examples)
  - body height: 157.0 mm (1 example)
  - base dimensions: $\bar{x}$ = 71.0 mm by 73.0 mm (70.0 mm - 73.9 mm; 2 examples)
    - : 55.4 mm by 56.2 mm (1 example, 2L80T11-7)
  - push-up height: $\bar{x}$ = 10.3 mm (5.0 mm - 13.5 mm; 3 examples)
  - pontil mark diameter: $\bar{x}$ = 32.2 mm (31.6 mm - 32.85 mm; 2 examples)
    - : 22.9 mm (1 example, 2L80T11-7)
  - vessel height: 205.0 mm (1 example)
- **Manufacture:** dip-moulded body; cracked off and fire-polished lip (some tooling done to the bore and lip of 2L80T11-6); push-ups probably formed initially in the mould and then deepened somewhat when empontilled (2L80T11-7's push-up has a pointed impression higher than the pontil mark level and this may be a push-up forming mark); glass-tipped pontil marks (the larger ones may be lightly applied blowpipe marks).
- **Colour:** blue-green
- **Condition:** seed bubbled
- **Published illustrations:**
  - Brain 1970: 5, Fig. 4 (second bottle from the right)
  - Brown 1971: 184, Pl. 1
  - Genêt, Vermette and Décarie-Audet 1974: 127, F-8
  - Hanrahan 1978: 66, Fig. 9 (bottle on left)
  - Noël Hume 1972: 70, Fig. 15

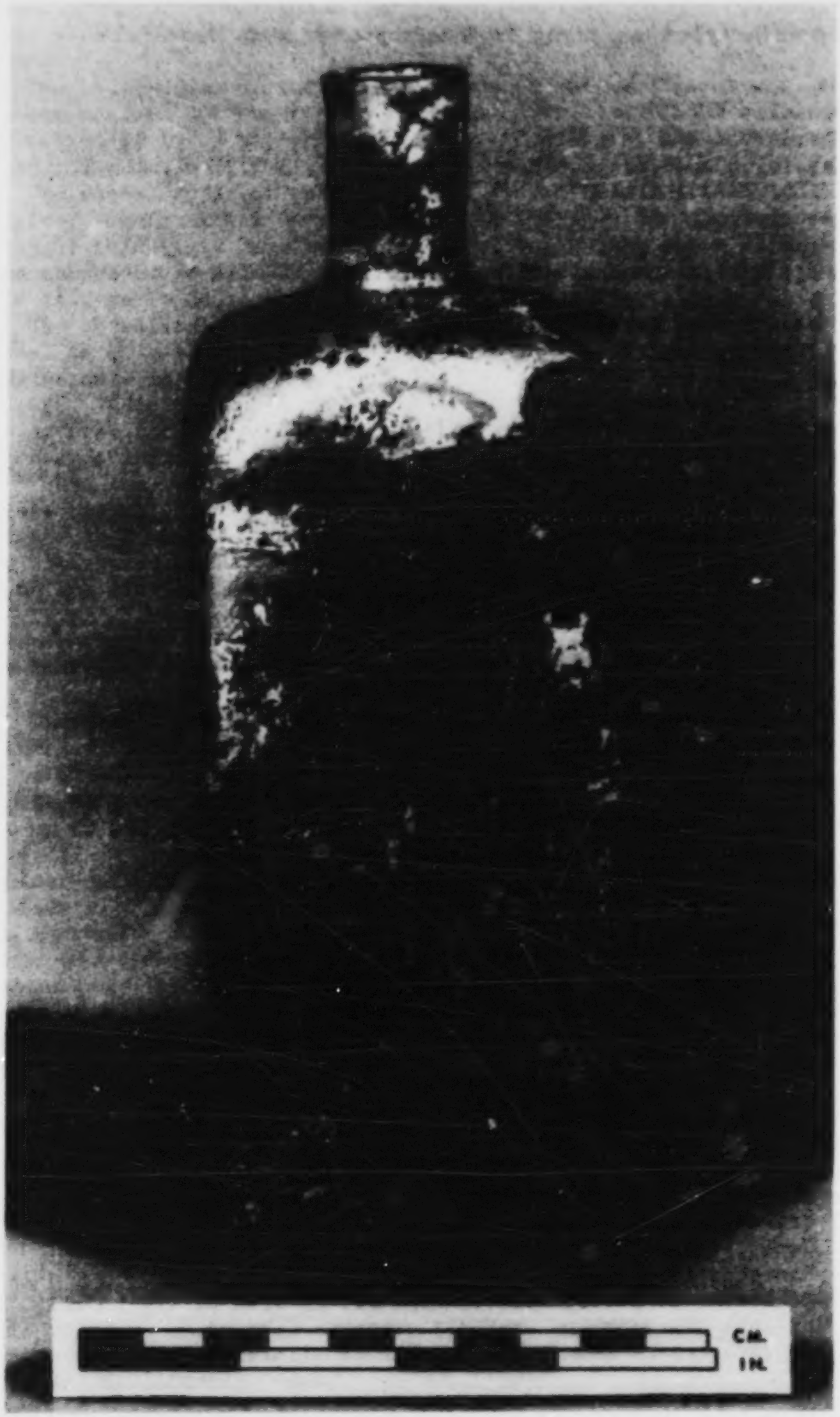

Figure 15. Narrow-mouthed *flacons*, Style 1. Front view of restorable example (2L80B22-11). (Photo by R. Chan; RA-6421B.)

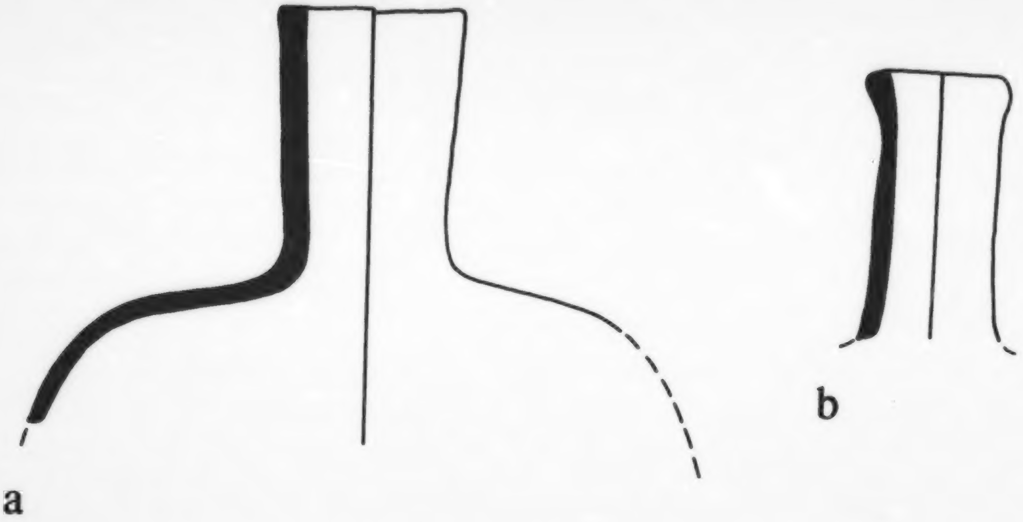

Figure 16. Narrow-mouthed *flacons*, Style 1. Cross-sections and plan views of finishes: a, normal finish (2L81L7-8), and b, somewhat unusual finish but probably from a Style 1 *flacon* (2L80T11-6). (Drawings by K. Gillies.) Scale: life-size.

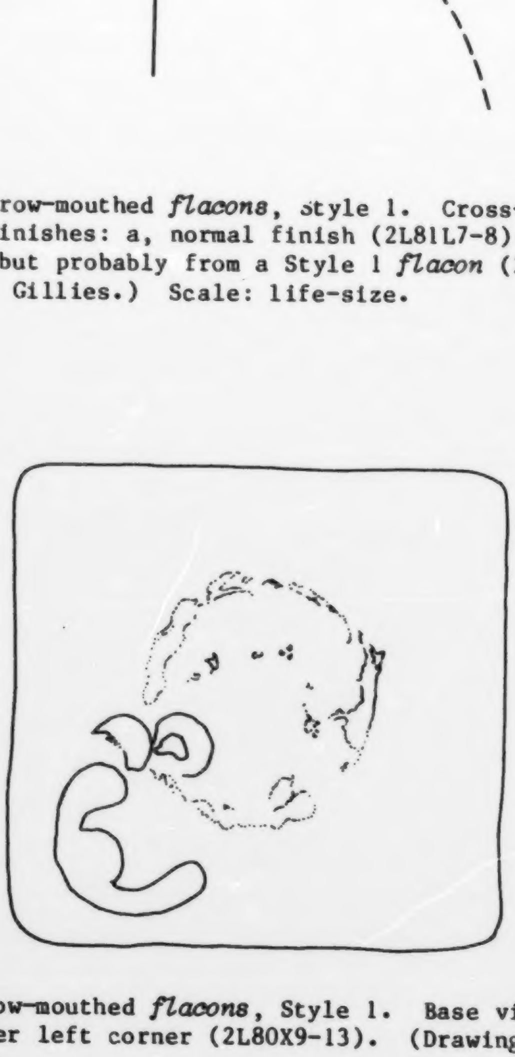

Figure 17. Narrow-mouthed *flacons*, Style 1. Base view showing embossing in lower left corner (2L80X9-13). (Drawing by K. Gillies.) Scale: life-size.

Narrow-Mouthed *flacons*, Style 2: "Cylindrical" *flacon* with Short Neck

Vessels: 2
Sherds: 7
Catalogue numbers: 2L80X9-12, 2L81F7-6
Description:
  finish - one part
  lip - basically flat on top
  neck - tapered towards the shoulder
  shoulder - nearly horizontal
Dimensions:
  bore diameter: $\bar{x}$ = 18.85 mm (17.3 mm - 20.4 mm; 2 examples)
  neck-finish height: $\bar{x}$ = 30.9 mm (27.2 mm - 34.6 mm; 2 examples)
Manufacture: cracked off and fire-polished lip
Colour: blue green
Condition: seed bubbled
Published illustrations: none located

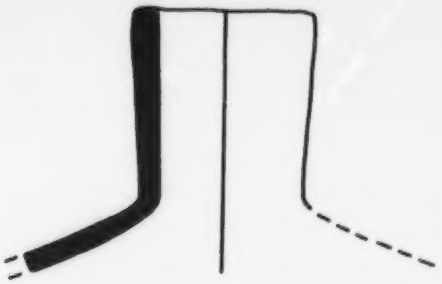

Figure 18. Narrow-mouthed *flacons*, Style 2. Cross-section and plan view of finish (2L81F7-6). (Drawing by K. Gillies.) Scale: life-size.

Narrow-Mouthed *flacons*, Style 3: Tall "Cylindrical" *flacon* with Tall Neck

Vessels: 1
Sherds: 24
Catalogue number: 2L80Y19-1
Description:
  finish - one part
  bore - in places, a slight horizontal indentation just below the lip
  lip - flat on top with a thickened profile
  neck - basically straight except for the thickening at the lip and a slight flaring at the shoulder
  shoulder - rounded and short
  body - round in horizontal cross-section with sides tapering towards the shoulder
  heel - rounded
  resting surface - even
  basal profile - low bell
Dimensions:
  bore diameter: 16.2 mm
  neck-finish height: 64.0 mm
  body diameter at shoulder: 49.0 mm
  body height: 190.0 mm
  base diameter: 67.0 mm
  push-up height: 14.3 mm
  pontil mark diameter: 24.2 mm
  vessel height: 266.5 mm
Manufacture: probably dip-moulded body, marvered into final shape; cracked off, extensively fire-polished lip thickened by pressure being applied to the top, resulting in the indentation in the bore; push-up possibly formed with a *molette*; glass-tipped pontil mark.
Colour: blue-green
Condition: seed bubbled
Published illustrations:
  Brown 1971: 186, Pl. 3

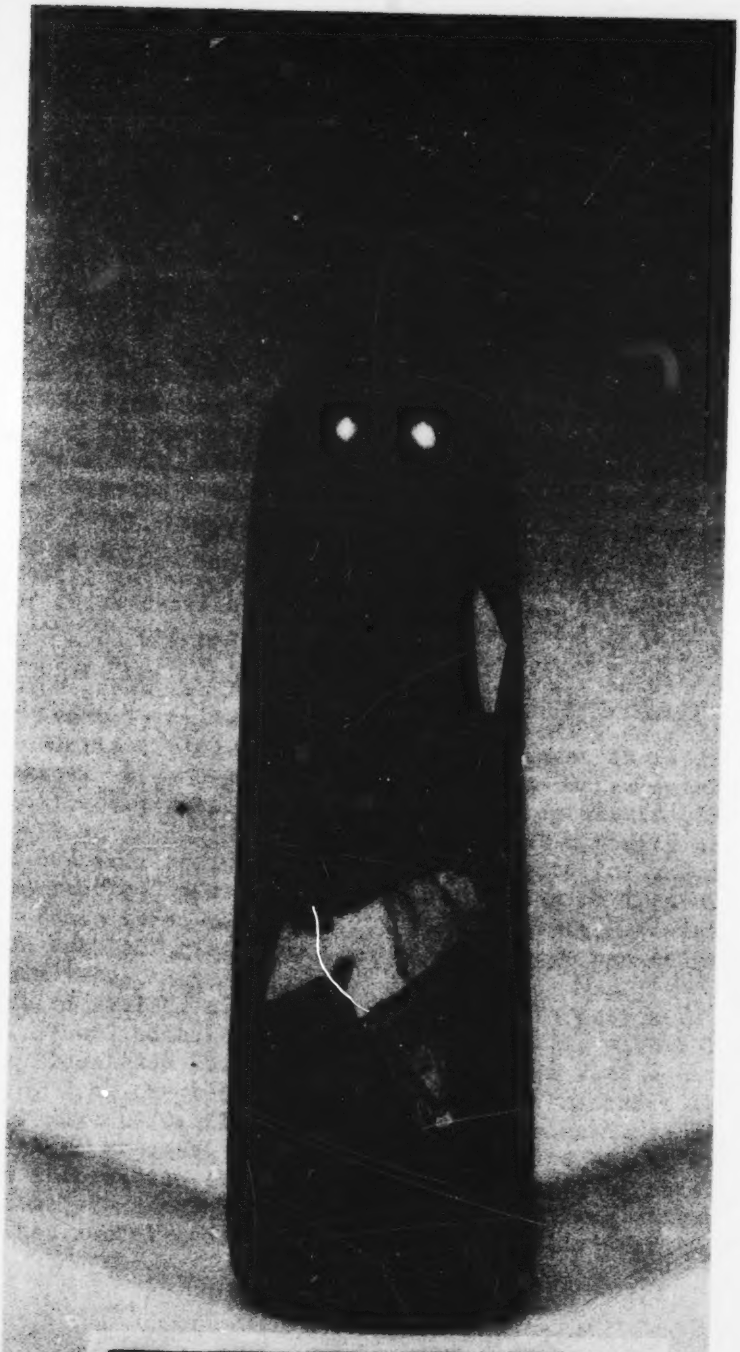

Figure 19. Narrow-mouthed *flacons*, Style 3. Front view (2L80Y19-1). (Photo by R. Chan; RA-6420B.)

Wide-Mouthed *flacons*, Style 1 (Not illustrated)

Vessels: 3
Sherds: 25
Catalogue numbers: 2L80B22-25, 2L80B25-4, 2L80B26-5, 2L80X9-16
Description:
  finish - one part
  lip - rounded on top
  neck - straight and/or slightly tapered towards the shoulder
  shoulder - rounded and short
  body - round in horizontal cross-section with slightly tapered sides
Dimensions:
  bore diameter: 1. ca. 60.0 mm (2L80B26-5)
                 2. ca. 65.0 mm (2L80X9-16)
                 3. ca. 90.0 mm (2L80B25-4)
  neck-finish height: 38.3 mm (1 example, 2L80B25-4)
Manufacture: dip-moulded body; cracked off and extensively fire-polished lip.
Colour: blue-green; green
Condition: seed bubbled (Two examples, 2L80X9-16 (green) and 2L80B25-4 (blue green), are only very lightly seed bubbled.)
Published illustrations: none located

Medicine Vials

Vials are containers of small capacity, generally only a few ounces, used to hold single doses of medicinal treatments (Matthews 1971: 59). It is very probable, however, that they were also used to hold any small amount of precious liquids such as oils, perfumes and toiletries (Harris 1978).

Three varieties of medicine vial are present in this assemblage. Each variety is represented by a single vessel and all are substantially different from each other.

The first variety is a fairly tall cylinder with a distinctly odd finish for the 18th century (Fig. 20). The lip resembles in appearance but not in manufacture a 19th-century barge lip from a medicine bottle (Whitall, Tatum & Co. 1876: 4), however the interior profile (bore) follows the exterior exactly. The finish appears to have been formed by tooling. No other vessels of this design have been seen but its designation as a medicine vial seems valid on the basis of its overall size and configuration. No statement regarding date or ascription can be made for this vessel but as its method of manufacture is appropriate for a Louisbourg context, it is not considered to be intrusive.

The second variety is the French *fiole* (vial) made of the typical "blue-green bubbled" container glass (Figs. 21, 22). The base present in Event 59 falls within the smallest group of *fioles* as defined by Harris (1978). The neck-finish fragment is typical in both size and shape. A complete but larger *fiole* in straw-coloured glass from the Louisbourg collection is illustrated in Harris (1978: Fig. 3). *Fioles* have been found in other French colonial contexts and also in aboriginal contexts which reflect French contact; for example, one in "blue-green bubbled" glass was found in the "Tunica Treasure" in Louisiana (Brain 1978: pers. com.). Unfortunately, as with all of the "blue-green bubbled" glass, no tighter date range can be given than the 18th century.

The third variety of vial is represented by only a few finish fragments. They indicate a very wide, flanged lip with a bore diameter of probably less than 20.0 mm. Flanged lips are very common on medicine vials dating from the 16th to the 19th century (Matthews 1971: Fig. 50a-b; Noël Hume 1972: 73-74) and it seems reasonable to categorize this a vial on these grounds. As such a small portion of the vessel is extant, no information on date or ascription could be obtained. The vessel probably had a short neck and a body that was either round or square in horizontal cross-section with straight sides.

Medicine Vials, Variety 1

- **Vessels:** 1
- **Sherds:** 14
- **Catalogue number:** 2L80X9-3
- **Description:**
  - finish - one part
  - bore - parallels contours of lip; tooling marks are present on some areas
  - lip - rounded
  - neck - straight
  - shoulder - bulged
  - body - round in horizontal cross-section with straight sides
  - heel - rounded
  - resting surface - uneven due to crude pontil mark
  - basal profile - shallow conical
- **Dimensions:**
  - finish height: 6.4 mm
  - base diameter: 27.5 mm
  - push-up height: 3.35 mm
  - pontil mark diameter: indistinct
  - estimated vessel height: ca. 140.0 mm
- **Manufacture:** mouth blown, possibly a dip-moulded body; finish appears to have been formed by tooling; pointed push-up mark; glass-tipped pontil mark.
- **Colour:** nearly colourless
- **Published illustrations:** none located

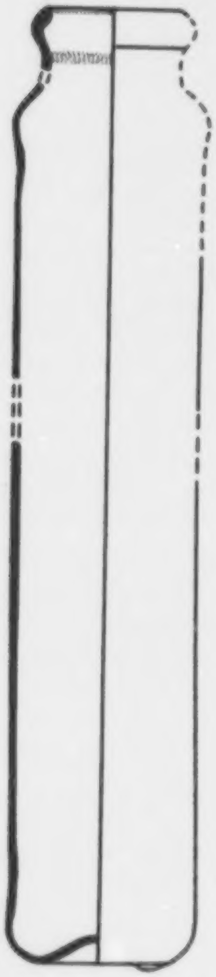

Figure 20. Medicine vials, Variety 1. Cross-section and plan view (2L80X9-3). (Drawing by K. Gillies.) Scale: life-size.

Medicine Vials, Variety 2

Vessels: 1
Sherds: 3
Catalogue numbers: 2L80B22-10, 2L81F7-1
Description:
  finish - one part
  lip - rounded and slightly thickened
  neck - basically straight
  body - round in horizontal cross-section
  heel - basal sag
  basal profile - shallow dome
Dimensions:
  bore diameter: 3.35 mm
  neck-finish height: 53.05 mm
  resting point diameter: 27.5 mm
  push-up height: 3.6 mm
  pontil mark diameter: 16.7 mm
Maufacture: mouth blown, possibly a dip-moulded body; cracked off and fire-polished lip which probably had some pressure applied to thicken it; push-up possibly formed by a *molette*; glass-tipped pontil mark.
Colour: blue-green
Condition: seed bubbled
Ascription: French
Published illustrations: none located

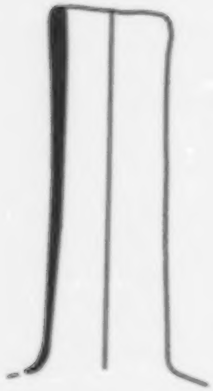

Figure 21. Medicine vials, Variety 2 (*fiole*). Cross-section and plan view of finish (2L80B22-10). (Drawing by K. Gillies.) Scale: life-size.

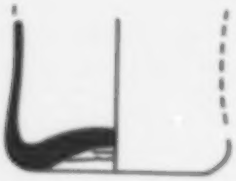

Figure 22. Medicine vials, Variety 2. Cross-section and plan view of base (2L81F7-1). (Drawing by K. Gillies.) Scale: life-size.

Medicine Vials, Variety 3 (Not illustrated)

Vessels: 1
Sherds: 4
Catalogue number: 2L80T13-10
Description:
  finish - one part
  bore - narrow
  lip - widely flanged
Dimensions: none available
Manufacture: mouth blown; tooling of glass at end of neck to form a flanged lip.
Colour: blue-green

Inkwells

There is one complete example of an inkwell in the Event 59 assemblage (Fig. 23). It is a very small "cylindrical" vessel with an inverted finish which makes it extremely difficult for any liquid contents to pour or spill out. It is possible that this kind of inkwell was meant to sit in a stand or the well of a desk (Noël Hume 1973: 10) but there also seems to be some argument for its being stoppered and carried about by its owner on his person. For instance, Covill (1971: 244, 248, Fig. 1079) shows one of somewhat similar design and terms it a "pocket" inkwell. If this were the case, the inkwell was probably protected by some sort of casing. For example, vessels of this same kind were used during the American Revolution and in some cases they were encased in brass and formed part of a compact field writing kit, complete with quill holder and sharpening blade (for example, Hanson and Hsu 1975: 131-32, Fig. 68m-n; Neumann and Kravic 1975: 275, Fig. 14).

This variety of inkwell appears to have been common throughout the 18th century and no statement regarding its country of origin can be made.

Inkwells, Variety 1

Vessels: 1
Sherds: 1
Catalogue number: 2L81K9-3
Description:
- finish - one part
- lip - inverted
- body - round in horizontal cross-section with slightly tapered sides
- heel - rounded
- resting surface - uneven
- basal profile - shallow conical

Dimensions:
- bore diameter: 9.4 mm
- body diameter at highest point: 26.7 mm
- base diameter: 25.65 mm
- push-up height: 2.0 mm
- pontil mark diameter: 9.7 mm
- vessel height: 30.0 mm
- weight: 17.35 g
- volume: 4.0 ml

Manufacture: mouth blown, possibly dip moulded; finish has been inverted and tooled to produce a smooth bore; pointed push-up mark; glass-tipped pontil mark with iron deposits from the tip of the pontil rod.
Colour: blue-green
Published illustrations:
- Hanson and Hsu 1975: 132, Fig. 68 m
- Noël Hume 1969b: 46, Fig. 47

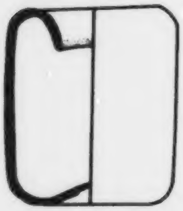

Figure 23. Inkwells, Variety 1. Cross-section and plan view of complete example (2L81K9-3). (Drawing by K. Gillies.) Scale: life-size.

Miscellaneous Containers of Unidentified Function

There are four container vessels which due to their fragmentary condition and/or uncommon shape, size or colour have not been identified positively as to function.

The first is a small, basically square vessel of lead glass and hence of British origin (2L80X9-28; *see* Fig. 24). In shape it is very like an inkwell what with its short, squarish body and its fairly narrow bore (Covill 1971: 258, Figs. 1077, 1078). Unfortunately, however, the finish is missing so it is not known whether it had a flanged lip like the inkwells illustrated by Covill. The author does not give the ascription and date of this style of inkwell. In further possible support of an inkwell categorization are the heavy wear marks on the base and extant side of the container (Fig. 24b), such as would be caused by the vessel being kept in a case or writing desk. It should be remembered, though, that bottles for use in medicine chests and for the dispensing of medicines were also being made at this time in lead glass (Crellin and Scott 1972: 15-16) and although this container is short for a medicinal function, it should not be ruled out as a possibility.

The second vessel is represented by a small "wine" variety finish in blue-green glass (2L81M8-7; Fig. 25). What are thought to be quarter- and half-size "wine" bottles, as mentioned in the *Declaration du Roy* of 1735, have been found on the Roma site, located on Prince Edward Island and dating from 1732 to 1745 (Alyluia 1975). It is possible that this finish may have come from a vessel such as these. If such were the case, its basic shape would have been that of a French "wine" bottle with the sloping shoulder and "flower-pot" body. The precise function of these part-size bottles is not known.

The third vessel in this group is of dark green bottle glass and has a short, very narrow neck and a one-part finish consisting of an everted lip (2L81K9-2; Fig. 26). The shoulder appears to be horizontal or nearly so, and the remainder of the vessel is missing. It is possible that this is the finish from a case bottle. Noël Hume describes one type of 17th century case bottle as having an everted lip for corking and states that this type was often used by apothecaries and the like (Noël Hume 1961: 106). However, these bottles were also generally of thin glass and this finish is of very thick glass. An 18th century example of a case bottle with a finish of somewhat similar appearance has been excavated at Fort Michilimackinac but it has an applied and tooled string rim (Brown 1971: 148, Fig. 3e). This Event 59 finish is also not dissimilar to another, smaller, Michilimackinac case bottle finish, which has no string rim and does have a slightly everted lip. However, the bore is nearly twice as wide as that on the Event 59 finish (Brown 1971: 150, Fig. 4c). Despite these examples, due to the lack of any body sherds and to the uncommon characteristics of the finish, it has been decided to leave this vessel as one of unidentified function for the time being.

The final unidentified container vessel consists of a small, conical base made of a highly seed bubbled, nearly colourless glass with a distinctive gold tint (2L80T13-9). It is too light in colour to be of the straw-coloured variety of "blue-green bubbled" glass and as well its basal configuration is not right for the kind of container that glass appears in (Harris 1978). There are no obvious possibilities as to this vessel's function, shape and size, but it has been judged to be a container of some sort on the basis of the colour and quality of the glass.

Miscellaneous Containers of Unidentified Function, 1

Vessels: 1
Sherds: 6
Catalogue number: 2L80X9-28
Description:
  neck - appears to be straight
  shoulder - horizontal
  body - almost square in horizontal cross-section with straight sides
  heel - rounded
  resting surface - even
  basal profile - very shallow
Dimensions:
  body height: 22.0 mm
  resting point dimensions: 40.4 mm by 37.2 mm
  push-up height: 2.5 mm
  pontil mark diameter: 13.9 mm
Manufacture: dip-moulded body; push-up probably formed in the mould and during the empontilling process; glass-tipped pontil mark.
Colour: light grey
Condition: heavy wear marks on the base, the extant side and the bore
Glass: lead
Ascription: British

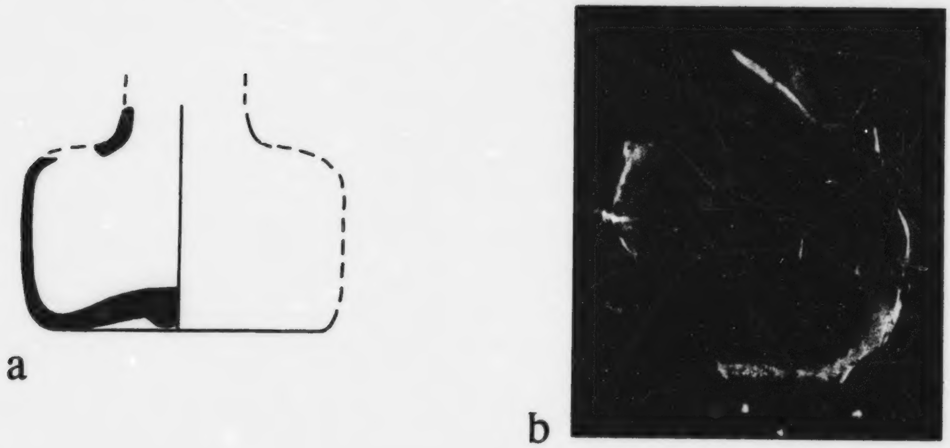

Figure 24. Miscellaneous containers of unidentified function, 1: a, cross-section and plan view, and b, slightly angled base view showing heavy wear marks on base and extant side (2L80X9-28). (Drawing by K. Gillies; photo by R. Chan; RA-6432B.) Scale: life-size.

Miscellaneous Containers of Unidentified Function, 2

Vessels: 1
Sherds: 1
Catalogue number: 2L81M8-7
Description:
  finish - two part, "wine" style
  lip - flat on top
  string rim - V-shaped
  neck - appears to be straight
Dimensions:
  bore diameter: 12.7 mm
  lip to string rim height: 2.85 mm
  string rim height: 5.2 mm
  finish height: 8.4 mm
Manufacture: cracked off and fire-polished lip; applied and tooled string rim.
Colour: blue-green

Miscellaneous Containers of Unidentified Function, 3

Vessels: 1
Sherds: 1
Catalogue number: 2L81K9-2
Description:
  finish - one part
  lip - everted
  neck - very short, basically straight
  shoulder - appears to be horizontal or nearly so
Dimensions:
  bore diameter: 11.0 mm
  finish height: 6.3 mm
  neck-finish height: 16.5 mm
Manufacture: tooling of glass at end of neck to form an everted lip
Colour: dark green

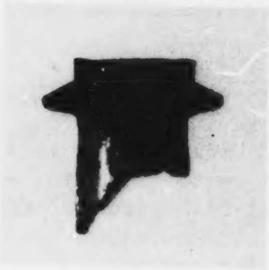

Figure 25. Miscellaneous containers of unidentified function, 2. Front view (2L81M8-7). (Photo by R. Chan; RA-6428B.) Scale: life-size.

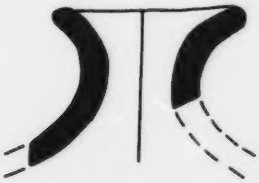

Figure 26. Miscellaneous containers of unidentified function, 3. Cross-section (2L81K9-2). (Drawing by K. Gillies.) Scale: life-size.

Miscellaneous Containers of Unidentified Function, 4 (Not illustrated)

Vessels: 1
Sherds: 2
Catalogue number: 2L80T13-9
Description:
  body - probably round in horizontal cross-section
  heel - rounded
  basal profile - rounded conical
Dimensions:
  pontil mark diameter: 12.45 mm
Manufacture: mouth blown; uncertain push-up mark; glass-tipped pontil mark.
Colour: nearly colourless with a distinctive goldish tint
Condition: highly seed bubbled

Undiagnostic Container Sherds

There are a number of undiagnostic sherds which could not be positively identified as to container type or variety and which are not considered to be representative of vessels. There are two groups of these sherds: dark green ones presumed to be from beverage bottles, the "wine" variety in all likelihood, and "blue-green bubbled" ones, most probably from *flacons*. Because curved sherds occur on both "wine" and case bottles, and because "blue-green bubbled" glass was made into *flacons, fioles* and *bouteilles*, it was decided to leave these miscellaneous body sherds as undiagnostic since they could not add to the minimum vessel count. Of note in the undiagnostic container sherds is a fragment of dark green glass (2L80T11-8), which is thinly blown and appears as though it might be from a flask or ovoid-shaped container due to its curvature. There is not enough present, however, to permit a positive, or even probable, identification.

TABLEWARE

The tableware class of the Event 59 assemblage is nearly three times larger than the container class in terms of vessels. The class has been divided into four functional/stylistic types which can all be at least partly described as drinking glasses, plus an additional miscellaneous category for those vessels of unidentified function.

The most numerous type is stemware drinking glasses of which there are two sub-types, French and British. The French stemware is by far the most common and it has been divided into five varieties based on style and/or characteristics of the glass itself. The British stemware has been grouped under one variety. The next largest type is tumblers of which there are two varieties, undecorated and decorated. Dessert glasses or footed tumblers, in one variety only, form the third type while the fourth type is made up of cups present in but one variety, this represented by a single vessel. Lastly, in the miscellaneous category, there are three vessels which due to their incompleteness and/or method of manufacture have not been identified as to a specific function other than tableware.

Stemware

The stemware has been classified into two sub-types on the basis of country of origin. The first and by far the largest sub-type is of French or probable French origin. The second sub-type is of British origin.

The French stemware has been divided into five varieties according to metal and/or stem configuration. The specific metal or kind of glass has been used to define the variety in two cases, these being the *verre fougère* and common clear glass varieties. In two of the three other cases the configuration of the stemware rather than the metal has determined the classification. This is because both of these stemware configurations, the corrugated conical and hollow writhen cigar, are known to occur in at least two and sometimes three different kinds of glass. The fifth and final variety consists of an unidentified stemware vessel not previously defined and categorized in the literature either in terms of metal or configuration. However its overall appearance and its non-lead composition suggest that it is of French manufacture.

As all of the British stemware examples are made of lead glass, the classification has been done on the basis of style. Only one broad variety has been defined, this being the "baluster." The styles comprising this variety will be examined in chronological order after the French stemware has been dealt with.

The general description of vessel parts, shape and decoration has followed as closely as possible that given in Haynes (1970). As far as the specific description of the French stemware is concerned, McNally (1974) has been used extensively and wherever feasible the same categorization and terms have been used. Figure 27 illustrates the vessel part terminology used in the stemware section.

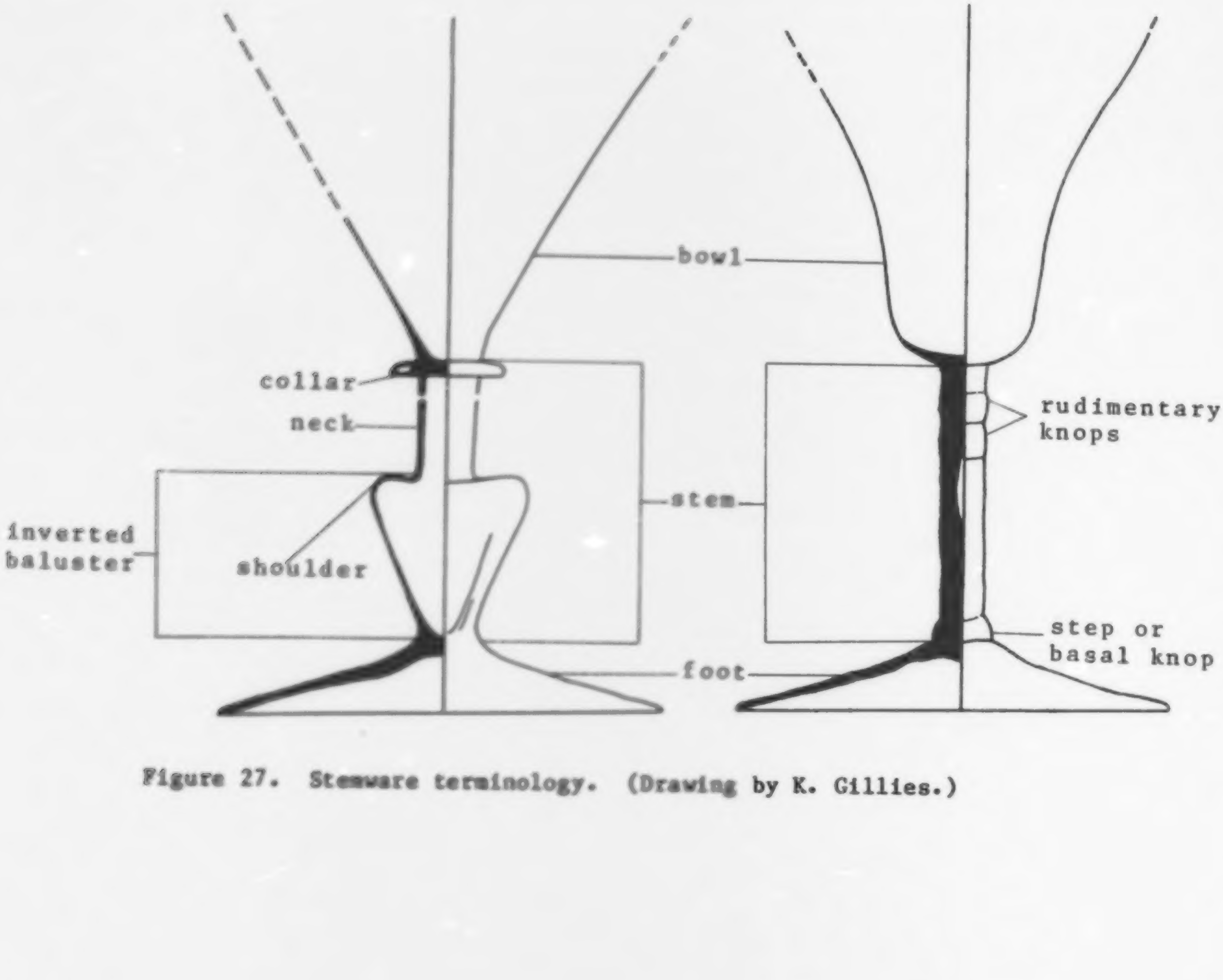
bowl
collar
neck
inverted baluster
shoulder
stem
foot
rudimentary knops
step or basal knop

Figure 27. Stemware terminology. (Drawing by K. Gillies.)

French Stemware

As stated above, there are five varieties of French stemware: *verre fougère*, corrugated conical stem, common clear glass, hollow writhen cigar stem and unidentified.

Verre Fougère

Verre fougère is the largest variety of stemware present in Event 59. It is a common kind of glass that generally occurs in shades of green but examples do occur in blue, grey and purple, and in shades made up of various combinations of the four. The glass is generally transparent and its colourful appearance is characteristic of this variety. As it is very thinly blown the colour often appears to be pale, when in reality the tone is quite intense and deep. Another consequence of the thinly blown glass is that complete or even relatively complete examples of *verre fougère* seldom survive to be found in archaeological contexts.

Verre fougère is a tradition indigenous to France but it bears distinct similarities to the *façon de Venise* glass of the late 17th and early 18th centuries. Both Barrelet (1957) and McNally (1974) discuss the stylistic affinities and composition of *verre fougère*. Some preliminary chemical analyses indicate that this kind of glass has a soda-lime composition (Costain 1978).

As far as dating is concerned, Barrelet (1953: 104-5) describes the *verre fougère* tradition as occurring during the first half of the 18th century and certainly the occurrence of this stemware at Louisbourg and in 18th century contexts at Place Royale, Québec (Lafrenière and Gagnon 1971: 71) tends to support this date. No stylistic chronology exists at this time for *verre fougère* but perhaps as more analyses of 18th century French sites are done, a pattern may become apparent.

The *verre fougère* stemware in this assemblage has been separated into three main styles on the basis of manufacturing techniques. There are two styles of glasses made in three parts, that is, the bowl, stem and foot were constructed of separate pieces of glass and joined together while still pliable. These two styles differ from each other in that in the first, the spindle stem style, the stem is of solid construction with an air inclusion for decoration, while in the second, the hollow blown stem style, the stem has been manufactured by blowing and is hollow. The third style of *verre fougère* again has a hollow blown stem but the glasses have each been made all in one part rather than in three. McNally has included the one-part manufacture glasses with the hollow-blown, three-part ones (McNally 1974) but in view of their great differençes both in configuration and manufacture, it has been decided to treat them as a separate style in this report.

The first style of *verre fougère* to be dealt with is the so-called spindle stem style (Figs. 28-31). There are four forms of spindle stems in this assemblage, all bearing a degree of resemblance to each other (1A-1D). With one exception, discussed below, all of the examples of these forms have solid stems with air inclusions and all have knopping of some kind, whether it be rudimentary or an inverted baluster. None of the spindle stems have collars at the stem-bowl juncture and all have plain conical feet. The presence or absence of stepping at the stem base, however, does vary from form to form and even from stem to stem. Bowl shapes also vary. One of the stem forms (1C; Fig. 30) that has been included in the spindle stem style in this report has been categorized with the hollow blown stem style by McNally (1974: Fig. 5a-b). Although there is one example of this form which does appear to be hollow blown (2L80Y19-27), it is otherwise similar to two other examples which appear to have air inclusions rather than be hollow blown. As well, the configuration of these stems bears a greater resemblance to the spindle forms than to the hollow blown forms, so the apparently hollow example has been grouped with the other two and all three categorized as a form of spindle stem.

The second style of *verre fougère* stemware is made up of glasses manufactured in three parts with hollow blown stems. These glasses have conical bowls, single collars at the stem-bowl juncture, and stems made up of a hollow neck and inverted baluster. Beyond these common traits, two forms have been defined (2A-2B). The first is characterized by an undecorated inverted baluster stem and a conical foot with a folded rim (Figs. 32, 33). As far as the neck to baluster proportion is concerned there is only one example, 2L80B22-17 (Fig. 33), which has a very short neck and an elongated inverted baluster. All of the other stems have short, fairly squat, inverted balusters and correspondingly longer necks as in 2L81F7-16 (Fig. 32). Taken all together, these stemware are generally shorter and more crudely manufactured than those of the second form, 2B. The latter are characterized by a quatrefoil, or four-lobed, inverted baluster and a plain, conical foot (Fig. 34).

Those stemware made by one-part manufacture compose the third style of *verre fougère*. In this method of manufacture, the foot, stem and bowl are formed from a single gather of glass, resulting in one thickness of glass in the bowl and bowl base, and a double thickness of glass in the stem and foot. For a description of the manufacturing process, the reader is referred to McNally (1974). These stemware are generally very thinly blown but the characteristic and easily identifiable feet and stems have a fairly good survival rate archaeologically. Two forms manufactured in this way have been identified (3A-3B). The first (Fig. 35) is more thickly blown than the second and appears, at least in this assemblage, in only one colour, a blue green sometimes covered with a chalky white patina. The stem is shorter than that of the second form and it can be roughly described as an inverted baluster. There is, however, no neck and the precise bowl shape is unknown. As well, there is some decorative tooling on the stem. The second form (Fig. 36) appears in a range of very light colours and sometimes is covered with a very silvery, almost scaley patina. The stem configuration is that of an inverted baluster but it has been formed into a cigar-like shape. There is no neck and the bowl appears to be conical in shape. Barrelet illustrates a glass which appears to have been made by one part manufacture and which in form resembles 3A, however it is larger than the examples in Event 59 (Barrelet 1957: Fig. 14, right). Interestingly enough, a vessel like the one shown by Barrelet is illustrated in Frothingham's *Spanish Glass* and attributed to Spain (Frothingham 1963: Pl. 39A). It may be that either the technique of manufacture was imported into France or the glasses themselves were imported (McNally 1974).

Miscellaneous sherds of *verre fougère* were identified generally by colour and body part, for example a foot or bowl rim sherd. Of note are several bowl sherds with pattern-moulded dimpling on them. These could not be positively identified with any of the stems in the assemblage and illustrations in Barrelet (1957: Plates 13, 15, 16) show that pattern moulded bowls could have occurred on nearly every spindle stem form present in the Event 59 group. The only other miscellaneous *verre fougère* sherds worth mentioning are some folded foot rim fragments in light green probably associated with Form 2A (the undecorated hollow-blown, three-part stemware).

Corrugated Conical Stem

The next most numerous variety of French stemware present is that which has been categorized stylistically as the corrugated conical stem variety due to its truncated, inverted conical stem decorated with tooled vertical corrugations or creases (Figs. 37-39). This variety of stemware has generally been thought to date to about the middle of the 18th century (Charleston 1952: Fig. 17) and into the second half of the century (Barrelet 1957: Fig. 19). Its appearance at Louisbourg in first occupation contexts may indicate that it dates somewhat earlier than has been thought.

This stemware variety occurs in both crizzled and non-crizzled glass at Louisbourg. The non-crizzled examples are made of the colourless, Bohemian-type metal and may have been manufactured in more northerly regions of France than the crizzled examples. Crizzling is a condition believed to be characteristic of much glass from the central and western regions of France in the 18th century (Charleston 1952: 18-19). McNally feels that crizzled glass and the configuration of this stemware variety represent a transitional phase in France from the indigenous *verre fougère* tradition to the Bohemian crystal tradition (McNally 1974).

In the Event 59 assemblage, the majority of the examples of this variety are crizzled but there are a few non-crizzled examples. The only stylistic difference between the two seems to be that the crizzled ones have double collars (Fig. 37, 38) and the non-crizzled ones have only single collars (Fig. 39). One example, 2L81K9-17, fluoresces like lead glass but in no other way has it been found to differ from the others. This is an anomaly which cannot be explained as lead glass is believed to not have been made in France until the fourth quarter or possibly late in the third quarter of the 18th century (Scoville 1968: 44; Charleston 1959: 158-60) and only a demi-lead glass was being made in Belgium before this (Chambon 1952 and Charleston 1957, as cited in McNally 1974).

The corrugated conical stemware are made of separate foot, stem and bowl parts but it is not certain whether the solid neck is part of the hollow stem or of the bowl, if either, or whether the collar(s) is applied, hence the hesitation in the catalogue description of the number of parts used in manufacture. Two variations of this general variety, both in non-crizzled glass, have been identified in the Event 59 assemblage (Figs. 40, 41). These possess minor differences from the norm in terms of collar, foot and stem detail, and colour. Both Barrelet (1957: Fig. 14, centre left) and McNally (1974: Fig. 5 g-h) illustrate vessels which appear to have the same stem as Variation 2. McNally describes it as a hollow inverted baluster variant of *verre fougère* and Barrelet also terms it a *verre fougère* stemware. However, the colour and configuration of the Variation 2 example are not like those of *verre fougère* and the author feels that this stem belongs more properly with the corrugated conical stem variety than with the *verre fougère* variety.

Common Clear Glass

The third variety of French stemware in this assemblage is made of and categorized as common clear glass or *verre blanc commun* (McNally 1974). This glass is nearly colourless but has a distinctive amber or yellowish tint which separates it from the truly colourless French glass. It is most probably a soda-lime glass and it appears in delicate, thinly blown styles related to the *façon de Venise* tradition. Two stem styles are present in Event 59: the first is a hollow blown inverted baluster that is very slender and elongated (Fig. 42), and the second is a drawn stem that again is extremely thin and fragile (Fig. 43). Each of these styles is represented by small fragments which, however, do permit positive identification due to the distinctive qualities of the glass and the small variety of styles in which it is found at Louisbourg.

Hollow Writhen Cigar Stem

The hollow writhen cigar stemware variety is very distinctive due to the treatment the stem undergoes during manufacture. This results in close, parallel, vertical incisions and the stem is then twisted, the end result being a "writhen" exterior on a cigar-shaped stem (Fig. 44).

This variety is very common at Louisbourg and it occurs there in common clear glass, crizzled glass and demi-lead glass from the Low Countries (McNally 1974). There is but one example of this variety in the Event 59 assemblage and it cannot be categorized as any of the above kinds of glass. Rather, it is a transparent, light green in colour and seems to be more of a common green glass or *verre fougère*. Barrelet considers stemware of this configuration to be *verre fougère* (Barrelet 1957: Fig. 12) and this example appears to substantiate that opinion. However, because the hollow writhen cigar variety does not normally occur in this colour or kind of glass at Louisbourg, it has been classified individually on the basis of stem configuration.

Unidentified French Stemware

The final variety of French stemware (Fig. 45) consists of one example of a style which in configuration and metal appears to be of French origin, but which has not been categorized previously by either Barrelet or McNally. It is made of a fairly lightweight, colourless, non-lead glass which is quite thick at the base of the bowl and through the stem as well. The stem is in the shape of an inverted baluster and appears to be hollow blown although the neck is nearly solid. It bears certain likenesses to the hollow writhen cigar stem in that the collar formation is similar and there are vertical, parallel incisions on the stem. In this example, however, the incisions are more widely spaced, resulting in a fluted exterior, particularly on the shoulder area of the baluster.

McNally illustrates a unique example of a somewhat similar stem configuration and categorizes it as being made of common clear glass (McNally 1974). Certainly the example here is quite different from the common clear glass present in this assemblage, but it is possible that it may belong under the common clear glass variety even though the style itself is not common to that kind of glass.

Verre fougère, Style 1, Form A

Vessels: 5
Sherds: 29
Catalogue numbers: 2L80V12-4, 2L80Y19-4, 2L80Y19-26, 2L80Y19-29, 2L80Y19-48
Description:
- stem - spindle style; slender inverted baluster with a step at the base
- bowl - pointed round funnel
- foot - plain conical

Decoration:
- stem - elongated air bubble

Dimensions:
- stem height: $\bar{x}$ = 48.1 mm (46.55 mm - 49.4 mm; 3 examples)
- foot diameter: $\bar{x}$ = 53.8 mm (48.0 mm - 59.3 mm; 3 examples)

Manufacture: three part
Colour: blue, blue-purple
Published illustrations: none located

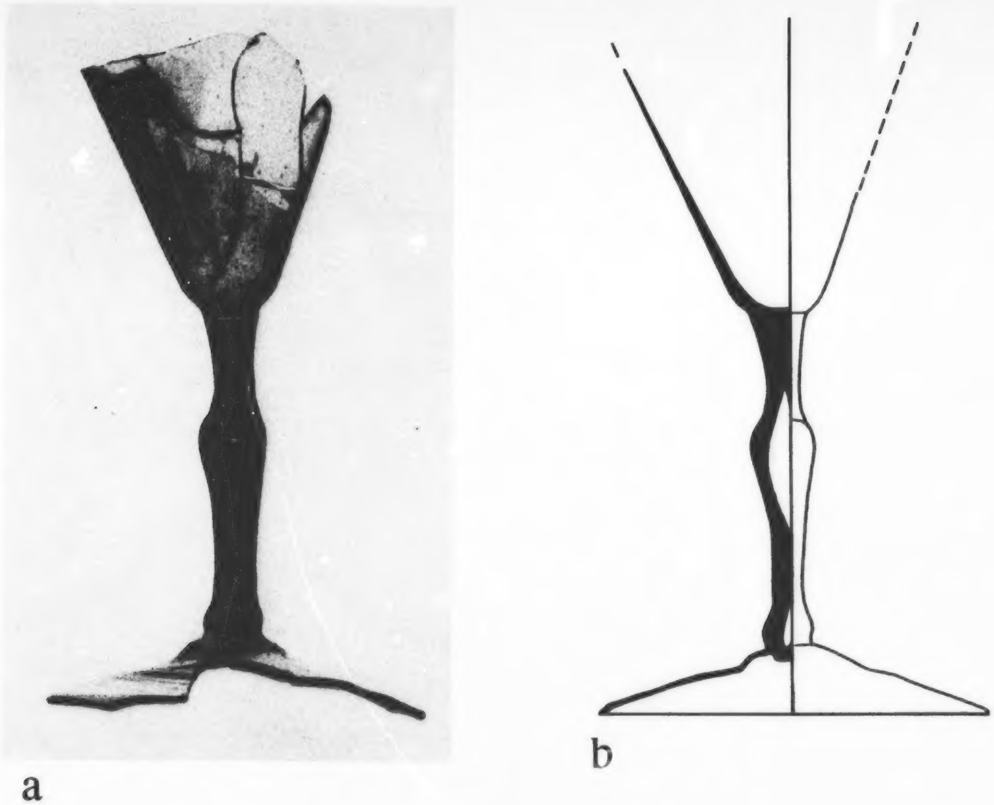

Figure 28. *Verre fougère*, Style 1, Form A: a, front view, and b, cross-section and plan view (2L80Y19-26). (Photo by R. Chan; RA-6703B; drawing by K. Gillies.) Scale: life-size.

Verre fougère, Style 1, Form B

Vessels: 3
Sherds: 19
Catalogue numbers: 2L80C16-3, 2L80Y19-5, 2L80Y19-28
Description:
  stem - spindle style; inverted baluster with a rudimentary knop at the shoulder and a step at the base (2L80C16-3 does not have a step)
  bowl - waisted pointed round funnel
  foot - plain conical
Decoration:
  stem - large air bubble
Dimensions:
  stem height: $\bar{x}$ = 45.15 mm (42.95 mm - 48.0 mm; 3 examples)
  foot diameter: $\bar{x}$ = 62.4 mm (60.0 mm - 64.75 mm; 2 examples)
Manufacture: three part
Colour: blue, purple, blue-green
Published illustrations: none located

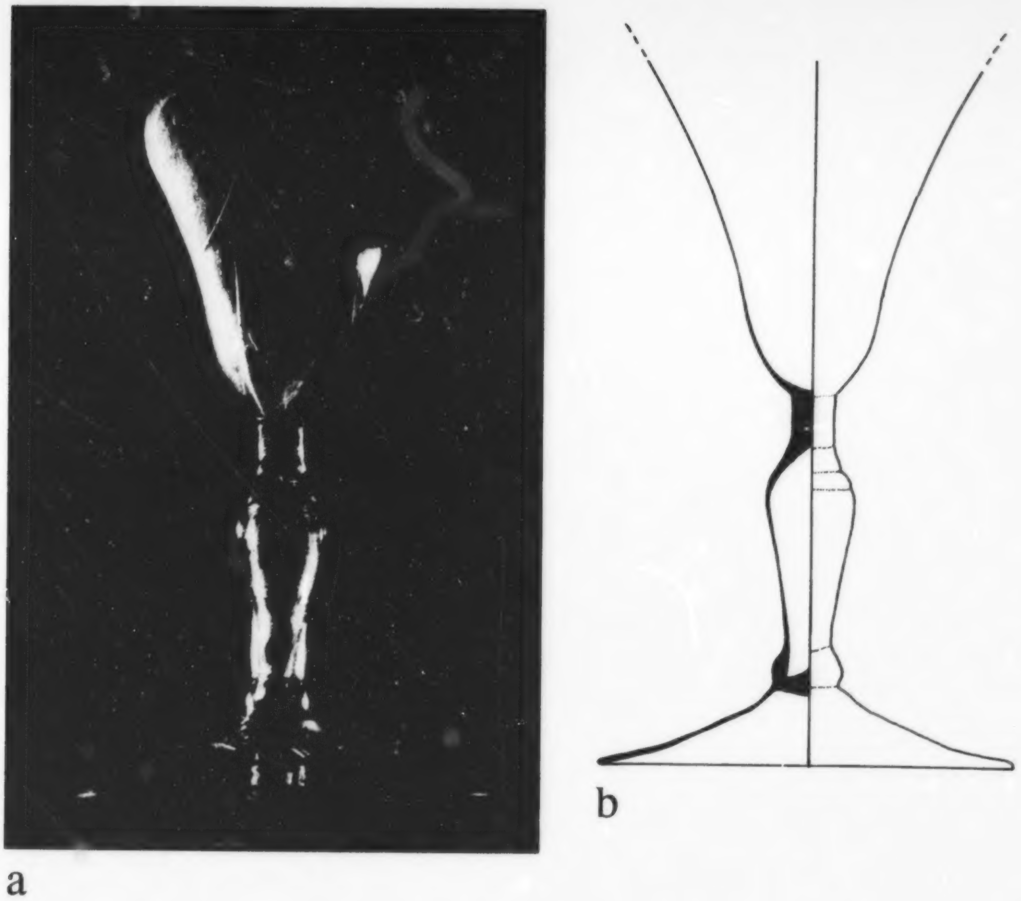

Figure 29. *Verre fougère*, Style 1, Form B; a, front view, and b, cross-section and plan view (2L80Y19-5). (Photo by R. Chan; RA-6423B; drawing by K. Gillies.) Scale: life-size.

Verre fougère, Style 1, Form C

- **Vessels:** 3
- **Sherds:** 14
- **Catalogue numbers:** 2L80Y19-3, 2L80Y19-25, 2L80Y19-27
- **Description:**
  - stem - spindle style; inverted baluster
  - bowl - round funnel
  - foot - plain conical
- **Decoration:**
  - stem - air bubble (see text)
- **Dimensions:**
  - stem height: $\bar{x}$ = 48.0 mm (46.0 mm - 50.55 mm; 3 examples)
  - foot diameter: $\bar{x}$ = 55.9 mm (51.95 mm - 61.15 mm; 3 examples)
- **Manufacture:** three part
- **Colour:** green, blue-green
- **Published illustrations:** none located

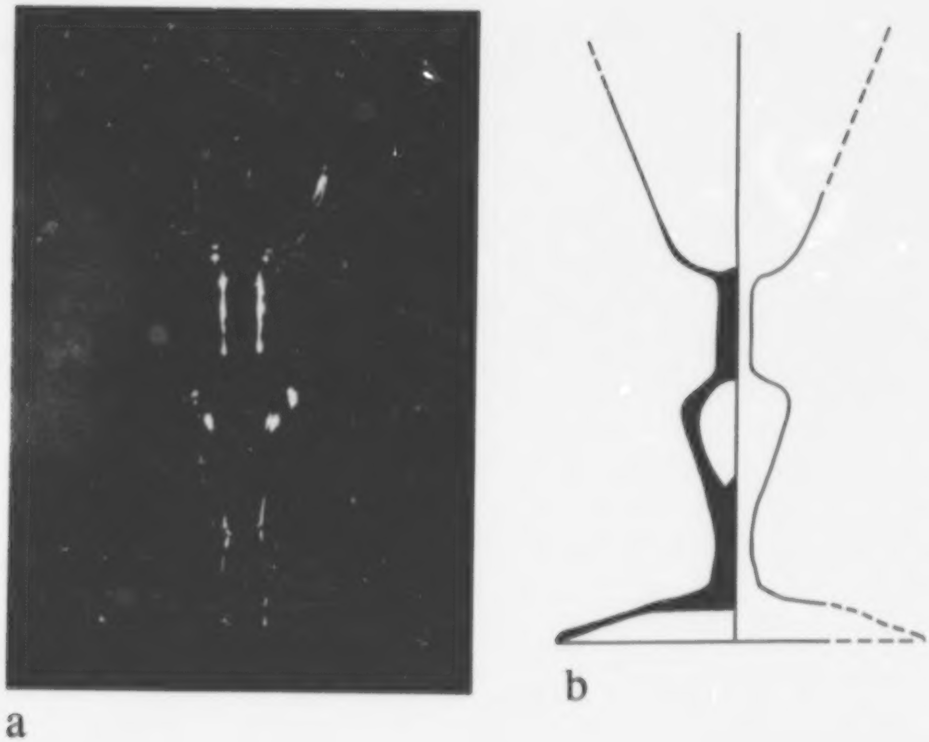

Figure 30. *Verre fougère*, Style 1, Form C: a, front view, and b, cross-section and plan view (2L80Y19-3). (Photo by R. Chan; RA-6431B; drawing by K. Gillies.) Scale: life-size.

Verre fougère, Style 1, Form D

Vessels: 1
Sherds: 9
Catalogue number: 2L80Y19-11
Description:
  stem - spindle style; straight with two rudimentary knops at the top and a step at the base
  bowl - bell
  foot - plain conical
Decoration:
  stem - air bubble
Dimensions:
  stem height: 42.1 mm
  foot diameter: 66.3 mm
Manufacture: three part
Colour: grey
Published illustrations: none located

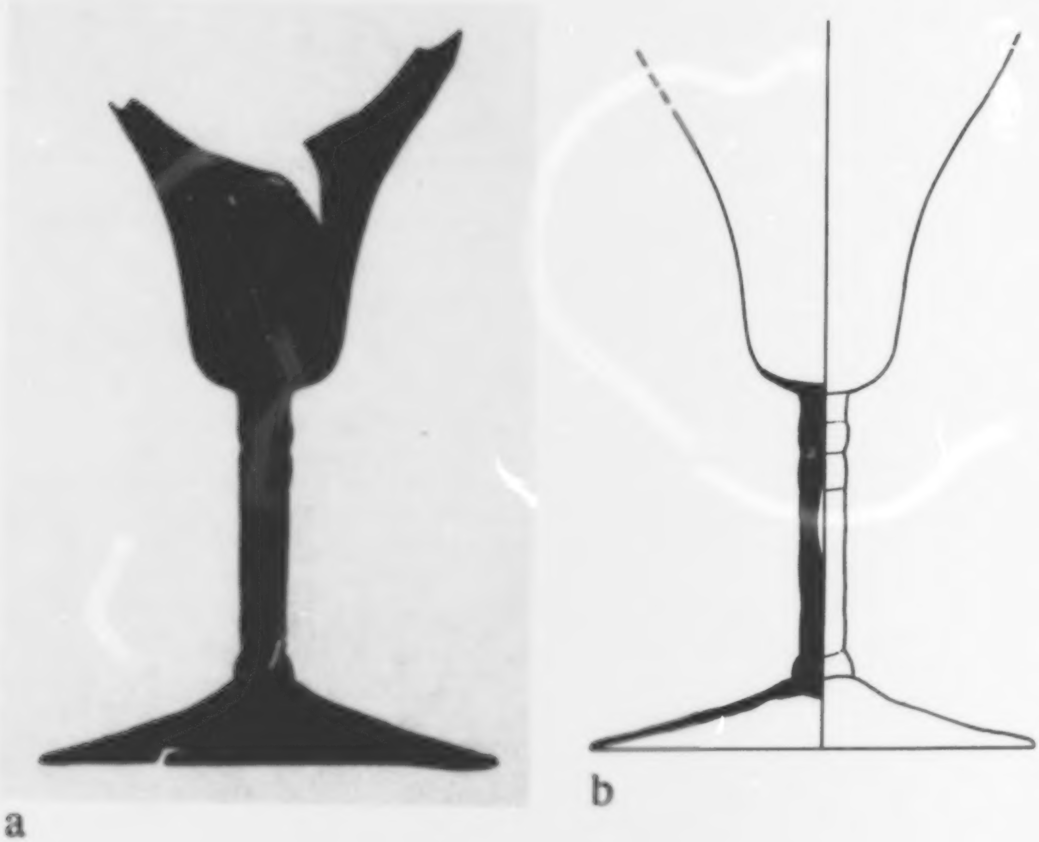

Figure 31. *Verre fougère*, Style 1, Form D: a, front view, and b, cross-section and plan view (2L80Y19-11). (Photo by R. Chan; RA-6701B; drawing by K. Gillies.) Scale: life-size.

Verre fougère, Style 2, Form A

Vessels: 7
Sherds: 30
Catalogue numbers: 2L80A17-2, 2L80B22-17, 2L80C16-4, 2L80N9-3, 2L80U4-8, 2L80X9-36, 2L81D4-3, 2L81F7-16, 2L81G8-15
Description:
  stem - hollow blown style; inverted baluster with a collar at the stem-bowl juncture (*see* text for discussion of neck-baluster proportion)
  bowl - conical
  foot - conical with a folded rim
Decoration: none
Dimensions:
  stem height: $\bar{x}$ = 38.3 mm (35.6 mm - 39.5 mm; 4 examples)
  foot diameter: $\bar{x}$ = 66.8 mm (65.0 mm - 68.6 mm; 2 examples)
Manufacture: three part; folded foot rim.
Colour: light green, light blue
Published illustrations: none located

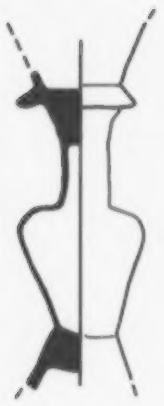

Figure 32. *Verre fougère*, Style 2, Form A. Cross-section and plan view of normal baluster-neck proportion (2L81F7-16). (Drawing by K. Gillies.) Scale: life-size.

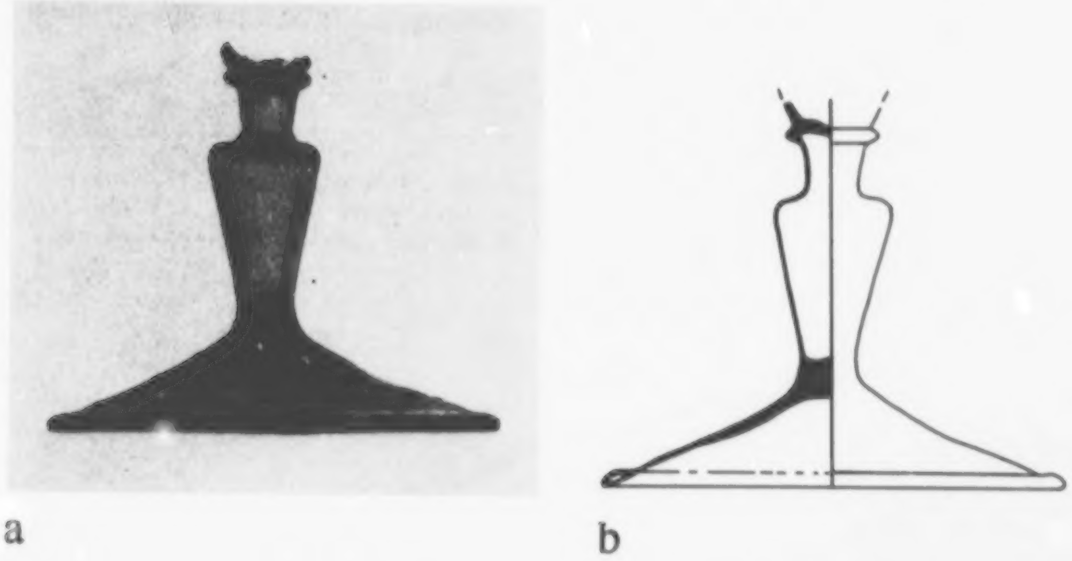

Figure 33. *Verre fougère*, Style 2, Form A. Variation from normal baluster-neck proportion: a, front view, and b, cross-section and plan view (2L80B22-17). (Photo by R. Chan; RA-6699B; drawing by K. Gillies.) Scale: life-size.

Verre fougère, Style 2, Form B

Vessels: 4
Sherds: 12
Catalogue numbers: 2L80V11-5, 2L80Y19-30, 2L81D4-17, 2L81K9-1
Description:
  stem - hollow-blown style; inverted baluster with a collar at the stem-bowl juncture
  bowl - conical
  foot - plain conical
Decoration:
  stem - vertically tooled creases on the baluster, thus forming a quatrefoil, or four-lobed, baluster
Dimensions:
  stem height: $\bar{x}$ = 45.05 mm (41.8 mm - 48.3 mm; 2 examples)
  foot diameter: $\bar{x}$ = 68.0 mm (66.1 mm - 70.0 mm; 3 examples)
Manufacture: three part
Colour: grey, green
Published illustrations:
  Genêt, Vermette and Décarie-Audet 1974: 257, V-2, V-3

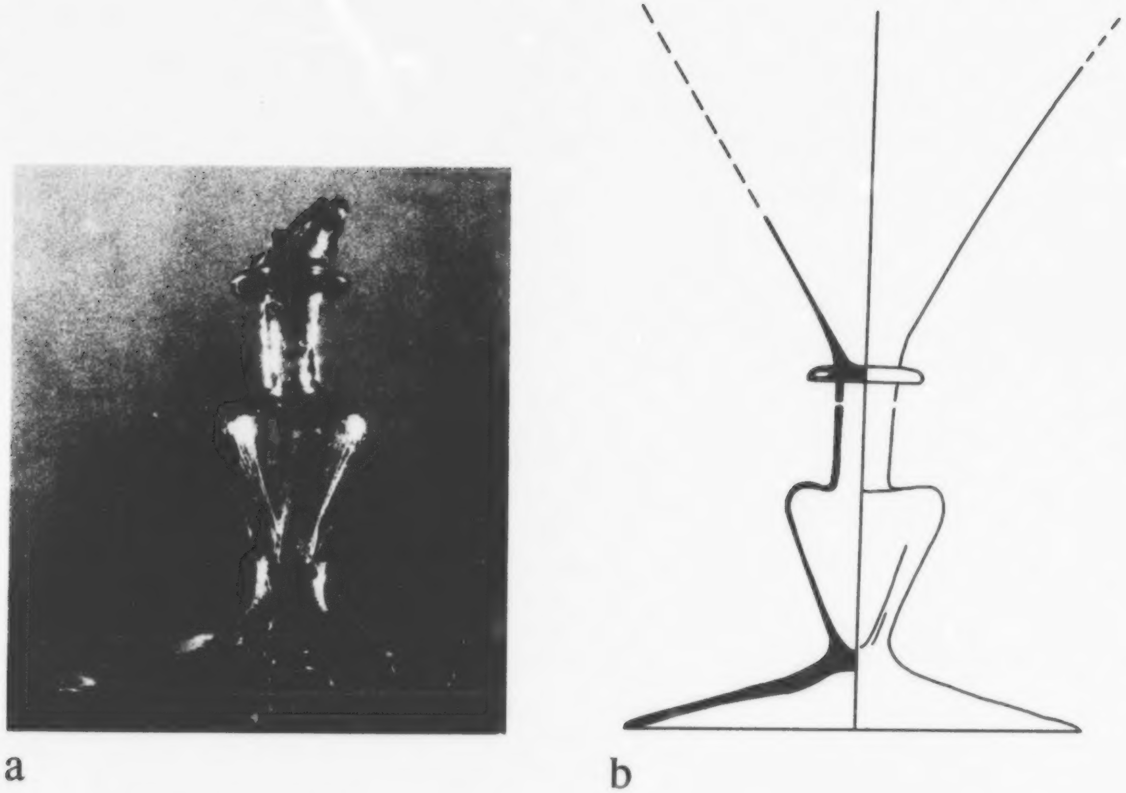

Figure 34. *Verre fougère*, Style 2, Form B: a, front view (2L81K9-1), and b, cross-section and plan view (2L80V11-5). (Photo by R. Chan; RA-6430B; drawing by K. Gillies.) Scale: life-size.

Verre fougère, Style 3, Form A

Vessels: 14
Sherds: 46
Catalogue numbers: 2L80B35-2, 2L80Y14-12, 2L80Y14-13, 2L80Y14-14, 2L80Y14-15, 2L80Y19-9, 2L80Y19-39, 2L80Y19-40, 2L80Y19-41, 2L80Y19-42, 2L80Y19-43, 2L80Y19-44, 2L80Y19-45, 2L80Y19-46, 2L80Y19-47, 2L81A7-8, 2L81B6-5, 2L81F7-17, 2L81F7-18, 2L81P11-3
Description:
  stem - hollow, inverted baluster with no neck; double thickness of glass
  bowl - unknown
  foot - basically conical; double thickness of glass with an air bubble around the rim due to the manufacturing process
Decoration:
  stem - horizontal tooling marks, generally two but sometimes one or three, around the upper portion
Dimensions:
  stem height: $\bar{x}$ = 28.3 mm (25.7 mm - 31.1 mm; 5 examples)
  foot diameter: $\bar{x}$ = 51.7 mm (45.0 mm - 55.7 mm; 11 examples)
Manufacture: one part
Colour: blue-green
Published illustrations: none located

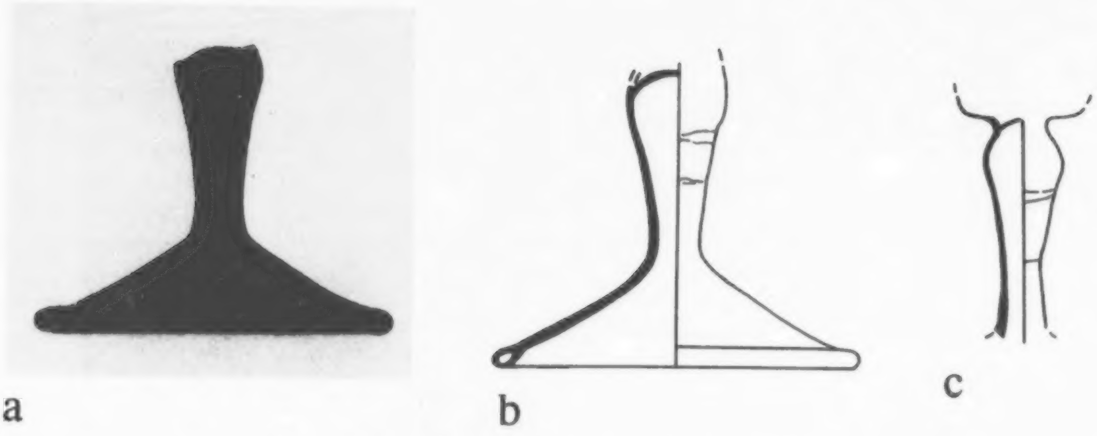

Figure 35. *Verre fougère*, Style 3, Form A: a, front view, and b, cross-section and plan view (2L80Y19-39); c, cross-section and plan view showing the maximum bowl portion present (2L81F7-17). (Photo by R. Chan; RA-6697B; drawings by K. Gillies.) Scale: life-size.

Verre fougère, Style 3, Form B

Vessels: 9
Sherds: 42
Catalogue numbers: 2L80T13-13, 2L80Y19-2, 2L80Y19-10, 2L80Y19-31, 2L80Y19-32, 2L80Y19-33, 2L80Y19-34, 2L80Y19-35, 2L80Y19-36, 2L80Y19-37, 2L80Y19-38
Description:
- stem - hollow, cigar-shaped inverted baluster with no neck; double thickness of glass
- bowl - possibly conical
- foot - conical; double thickness of glass with an air bubble around the rim due to the manufacturing process

Decoration: none
Dimensions:
- stem height: $\bar{x}$ = 37.3 mm (36.05 mm - 38.7 mm; 5 examples)
- foot diameter: $\bar{x}$ = 54.2 mm (47.0 mm - 59.55 mm; 10 examples)

Manufacture: one part
Colour: very light shades of blue, grey, green, blue-grey, blue-green
Published illustrations: none located

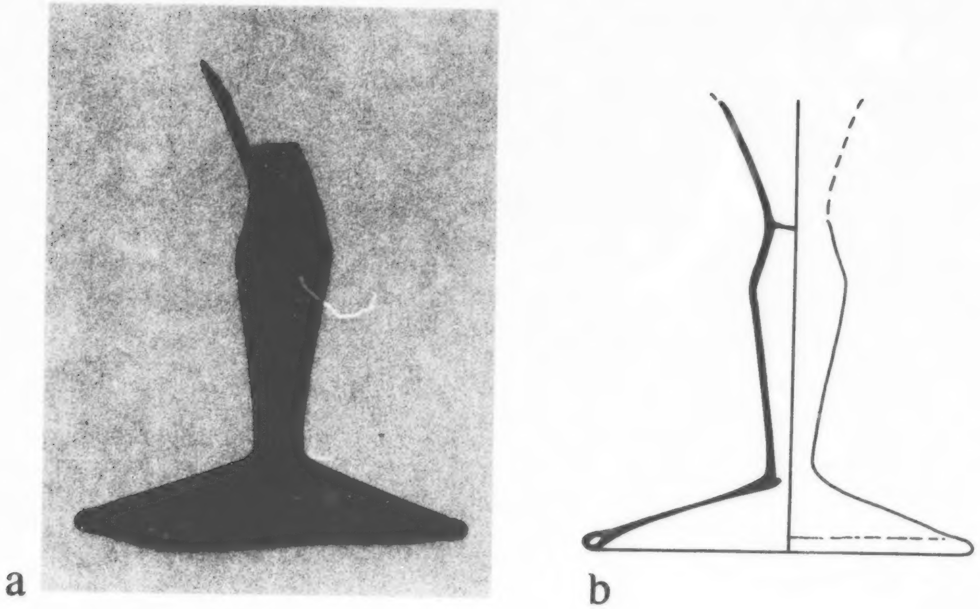

Figure 36. *Verre fougère*, Style 3, Form B: a, front view, and b, cross-section and plan view (2L80Y19-31). (Photo by R. Chan; RA-6696B; drawing by K. Gillies.) Scale: life-size.

Corrugated Conical Stem, Style 1

Vessels: 11
Sherds: 47
Catalogue numbers: 2L80T11-19, 2L80T13-21, 2L80X9-32, 2L80X9-34, 2L80X9-40, 2L80Y19-20, 2L80Y19-21, 2L80Y19-22, 2L80Y19-23, 2L81D4-19, 2L81F7-29, 2L81K9-17, 2L81K9-19
Description:
stem - corrugated conical style: hollow blown inverted baluster with a horizontal shoulder, solid neck and a single or double collar at the stem-bowl juncture
bowl - conical with a solid base
foot - conical with a folded rim
Decoration:
stem - vertically tooled, and sometimes swirled, creases or corrugations of varying length, number (four, six, or eight) and spacing on the baluster
Dimensions:
stem height: $\bar{x}$ = 47.9 mm (45.1 mm - 51.3 mm; 3 examples)
bowl height: 77.0 mm (1 example)
bowl rim diameter: 74.5 mm (1 example)
foot diameter: 68.5 mm (1 example)
vessel height: 138.5 mm (1 example)
Manufacture: three or possibly four part; folded foot rim.
Colour: colourless, pink (*see* Condition)
Condition: 43 sherds, including 8 vessels, are crizzled; of these, 39 have also solarized, hence the pink colour; 1 vessel (2L81F7-29) has been damaged by exposure to heat.
Published illustrations:
Barrelet 1957: Fig. 19 (middle)
Charleston 1952: Fig. 17b

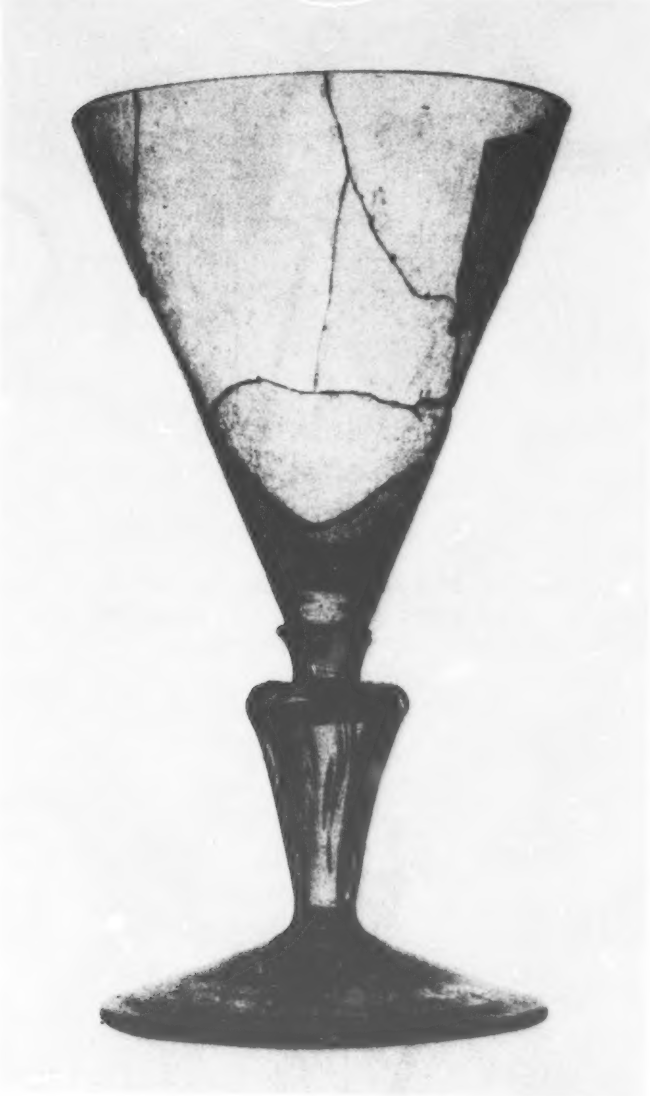

Figure 37. Corrugated conical stem, Style 1. Front view of restorable example in crizzled glass (2L80X9-40). (Photo by R. Chan; RA-6704B.) Scale: life-size.

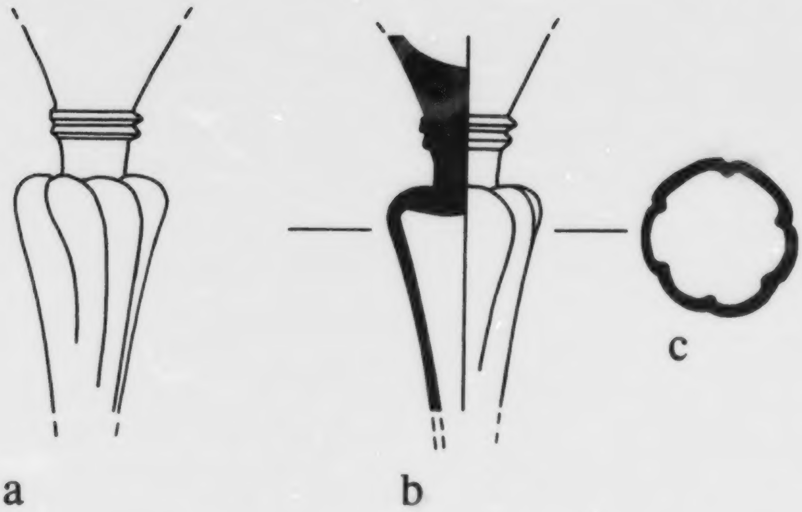

Figure 38. Corrugated conical stem, Style 1. Crizzled example with double collar: a, plan view; b, cross-section and plan view, and (Drawings by K. Gillies.) Scale: life-size.

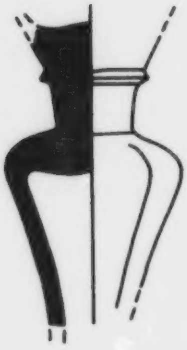

Figure 39. Corrugated conical stem, Style 1. Cross-section and plan view of non-crizzled example with single collar (2L80T13-21). (Drawing by K. Gillies.) Scale: life-size.

Corrugated Conical Stem, Style 1, Variation 1

Vessels: 1
Sherds: 8
Catalogue number: 2L80N31-1
Description:
  stem - variation of corrugated conical style: hollow blown inverted baluster with a constriction part way to the base and a sloping shoulder, solid neck and a large, single, down-tooled collar at the stem-bowl juncture
  bowl - conical with a solid base
  foot - plain conical
Decoration:
  stem - two, possibly three, vertically tooled creases on the baluster
Dimensions:
  stem height: 44.2 mm
  foot diameter: 80.0 mm
Manufacture: three or possibly four part
Colour: colourless
Condition: non-crizzled
Published illustrations: none located

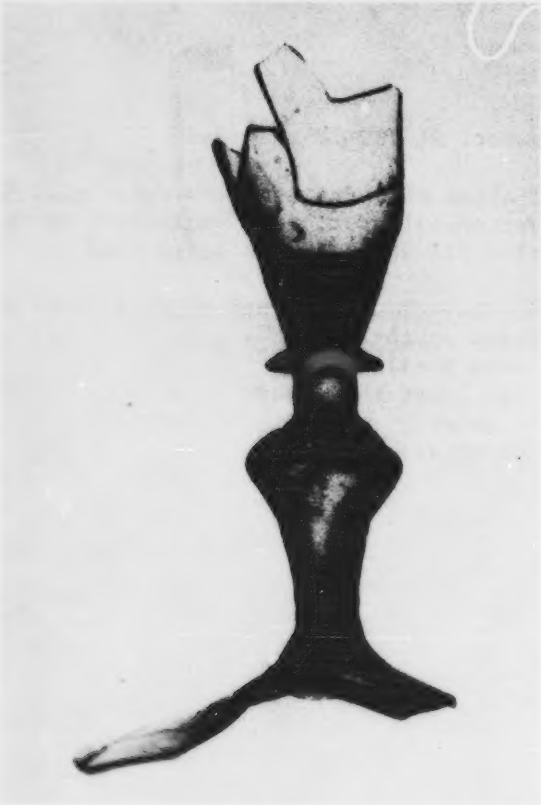

Figure 40. Corrugated conical stem, Style 1, Variation 1. Front view (2L80N31-1). (Photo by R. Chan; RA-6702B.) Scale: life-size.

Corrugated Conical Stem, Style 1, Variation 2

Vessels: 1
Sherds: 1
Catalogue number: 2L81K9-18
Description:
  stem - variation of corrugated conical style: hollow blown inverted baluster, very restrained in form, with a horizontal shoulder and solid neck
Decoration:
  stem - four unevenly spaced and slightly swirled tooled vertical creases on the baluster
Dimensions: none available
Manufacture: at least three part
Colour: light amber
Condition: non-crizzled

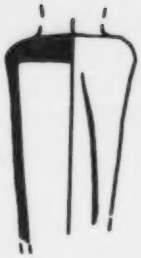

Figure 41 Corrugated conical stem, Style 1, Variation 2. Cross-section and plan view (2L81K9-18). (Drawing by K. Gillies.) Scale: life-size.

Common Clear Glass, Style 1

Vessels: 1
Sherds: 1
Catalogue number: 2L80T13-20
Description:
  stem - hollow blown; slender, elongated inverted baluster
Decoration: none
Dimensions: none available
Manufacture: three part
Colour: nearly colourless with a slight amber tint
Published illustrations:
  Barrelet 1957: Fig. 15 (two on left), Fig. 16 (middle)

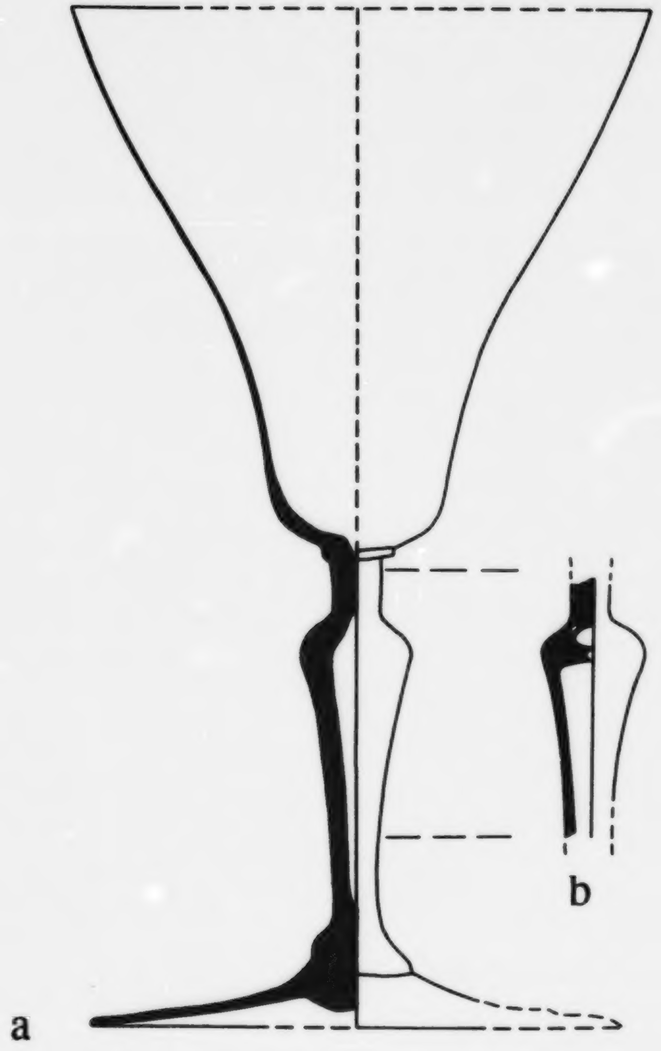

Figure 42. Common clear glass, Style 1. Cross-sections and plan views of a, restorable example from another Louisbourg context (1L34D5-2), and b, stem fragment from Event 59 (2L80T13-20). (Drawing by K. Gillies.) Scale: life-size.

Common Clear Glass, Style 2

Vessels: 1
Sherds: 3
Catalogue number: 2L80X9-33
Description:
  stem - drawn; plain and extremely narrow
  bowl - conical
Decoration: none
Dimensions: none available
Manufacture: two part
Colour: nearly colourless with a slight amber tint
Published illustrations:
  Barrelet 1957: Fig. 17 (left)

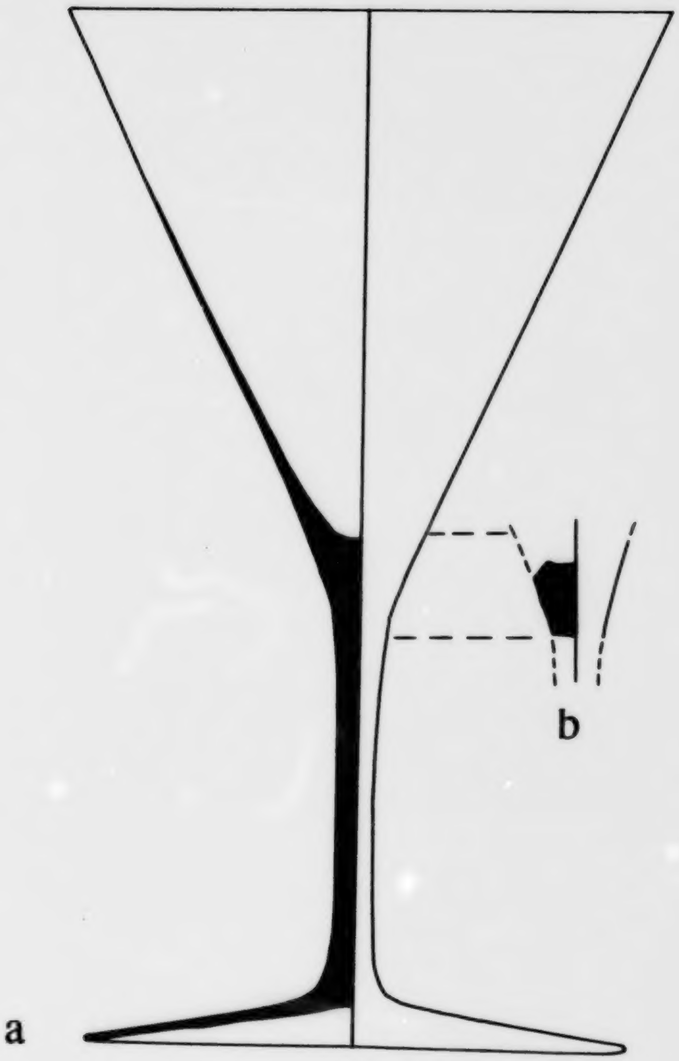

Figure 43. Common clear glass, Style 2. Cross-sections and plan views of a, restorable example from another Louisbourg context (1L34D5-3), and b, stem-bowl fragment from Event 59 (2L80X9-33). (Drawing by K. Gillies.) Scale: life-size.

Hollow Writhen Cigar Stem, Style 1

Vessels: 1
Sherds: 9
Catalogue number: 2L80Y19-12
Description:
  stem - hollow blown inverted baluster in a cigar-like shape, with a collar at the stem-bowl juncture
  bowl - round funnel
  foot - plain conical
Decoration:
  stem - swirled narrow, vertical incising, hence the term "writhen"
Dimensions:
  stem height: 47.2 mm
Manufacture: three part
Colour: light green
Published illustrations:
  Barrelet 1957: Fig. 12

Figure 44. Hollow writhen cigar stem, Style 1. Front view (2L80Y19-12). (Photo by R. Chan; RA-6424B.) Scale: life-size.

Unidentified French Stemware, Style 1

Vessels: 1
Sherds: 1
Catalogue number: 2L80B25-6
Description:
stem - inverted baluster, possibly hollow blown, with a collar at the stem-bowl juncture
Decoration:
stem - vertical incising, resulting in a fluted appearance
Dimensions: none available
Manufacture: three part
Colour: colourless
Published illustrations: none located

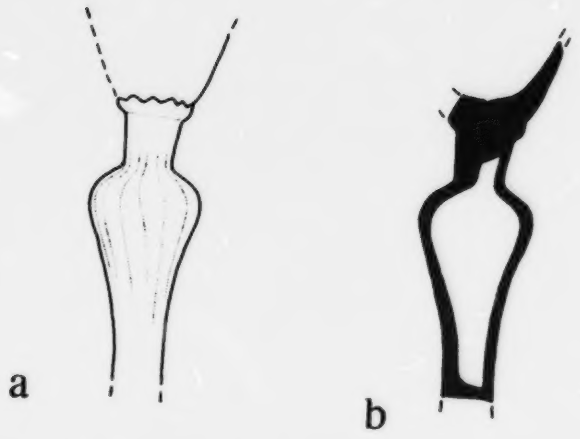

Figure 45. Unidentified French stemware, Style 1: a, plan view, and b, cross-section (2L80B25-6). (Drawings by K. Gillies.) Scale: life-size.

British Stemware*

There is a small group of stemware artifacts ascribed to Great Britain on the basis of metal and style. The glass was tested for fluorescence using a short-wave ultra-violet light and it fluoresced the ice-blue of full lead glass, that is, potash glass containing approximately 30 to 35 per cent lead oxide. The glass is colourless, heavy, and extremely lustrous, and gives a feeling of sturdiness when compared to the fragility and lightness of most of the French stemware.

In reviewing the extensive literature on 18th century British drinking glasses, it was found that the definition and use of the terms heavy baluster, baluster and balustroid are not consistent. As well, the frequent lack of information on vessel size made actual comparison with the artifacts difficult. Therefore, all of the British stemware in this assemblage has been categorized as being of a general "baluster" variety, which dates stylistically from the last quarter of the 17th century into the second quarter of the 18th century (for example, Haynes 1970: 209; Bickerton 1973: 9, 11). Within this variety, four different stemware styles have been defined and are examined in chronological order.

The earliest stem styles are a plain inverted baluster, dating to about 1700 (Fig. 46), and an inverted baluster with a basal knop, dating from ca. 1690 to 1710 (Fig. 47). The third style is a substantial triple-knopped stem which can be accurately described as a heavy baluster (Fig. 48). This dates from ca. 1700 to 1720 (O.N. Wilkinson 1968: 114-15; Hughes 1969: 31; Elville 1951: 75) and would have occurred contemporaneously with the other, somewhat lighter balusters present in Event 59. The last style is a fairly light stem, consisting of a dominant knop and a basal knop (Fig. 49). Dating for this style is ca. 1710 to 1730, thus the full date range for the styles present is ca. 1690 to 1730.

The above styles are probably all of three part manufacture. Bowls, where present on the examples in Event 59, are of the pointed round funnel shape with solid bases and the stems are all solid with air inclusions for decoration. The basic foot form is conical but there is one example of a domed foot. The foot rim is present for only one style, 4, and it has been folded during manufacture. All of the pontil marks present are unfinished.

Miscellaneous British lead glass stemware sherds include a ball knop with an air inclusion. This very possibly came from a stem such as that on Style 4. As well, there is a stem-bowl sherd (2L81D4-23) that could have been originally from either a Style 1 or 2 vessel and there are bowl fragments that could have belonged to any of the four styles (2L80T11-17, 2L80X9-26, 2L80Y19-18). Finally there are foot and folded foot rim sherds that could not be associated with any specific stem. There are no plain foot rim sherds in the assemblage. Two vessels have been damaged by exposure to heat (2L81D4-23, 2L80X9-26).

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* References for most dates given in this section are listed under "Published illustrations" for each of the four styles.

"Baluster" Variety, Style 1

Vessels: 1
Sherds: 1
Catalogue number: 2L80Y19-17
Description:
  stem - inverted baluster with a short neck area at the stem-bowl juncture
  bowl - pointed round funnel with a solid base
  foot - conical
Decoration:
  stem - elongated air bubble
Dimensions:
  stem height: 52.4 mm
Manufacture: three part
Date: ca. 1700
Published illustrations:
  Bickerton 1973: Plate 34
  R. Wilkinson 1968: Fig. 52
  Noël Hume 1972: 189, Fig. VII

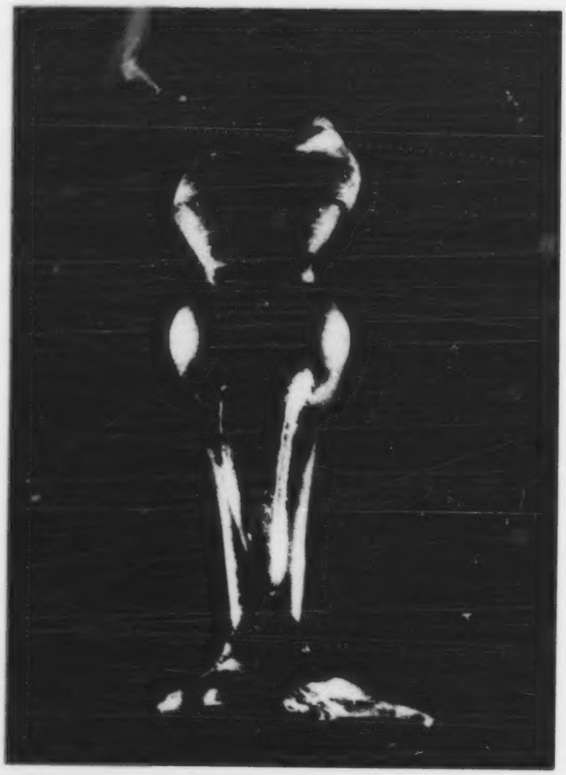

Figure 46. "Baluster" variety, Style 1. Front view (2L80Y19-17). (Photo by R. Chan; RA-6422B.) Scale: life-size.

"Baluster" Variety, Style 2

Vessels: 0
Sherds: 1
Catalogue number: 2L80X9-25
Description:
  stem - inverted baluster with a basal knop and a slight indication of a neck at the stem-bowl juncture
Decoration:
  stem - elongated air bubble
Dimensions:
  stem height: 50.2 mm
Manufacture: three part
Date: ca. 1690 to 1710
Published illustrations:
  Bickerton 1973: Plate 30
  R. Wilkinson 1968: Fig. 47c

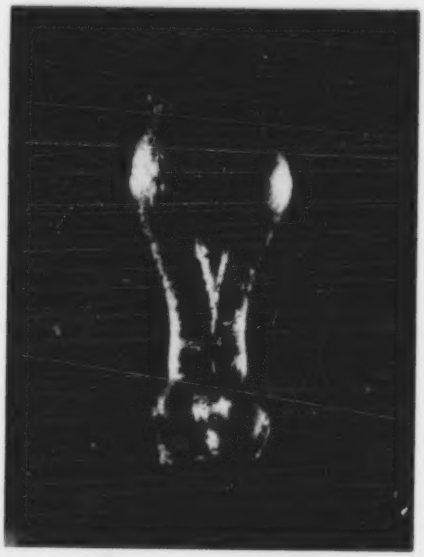

Figure 47. "Baluster" variety, Style 2. Front view (2L80X9-25). (Photo by R. Chan; RA-6426B.) Scale: life-size.

"Baluster" Variety, Style 3

Vessels: 1
Sherds: 3
Catalogue number: 2L81D4-1
Description:
  stem - triple knopped: an annular knop between two ball knops
  bowl - pointed round funnel with a solid base
  foot - domed
Decoration:
  stem - air bubble in lowest knop
  bowl - air bubble in base
Dimensions:
  stem height: 60.2 mm
  bowl rim diameter: 66.0 mm
  bowl height: 68.4 mm
Manufacture: uncertain, possibly three part
Date: ca. 1700 to 1720
Published illustrations:
  Davis 1961: Fig. 3 (The feet in this illustration appear to be conical rather than domed, but it is difficult to be certain.)

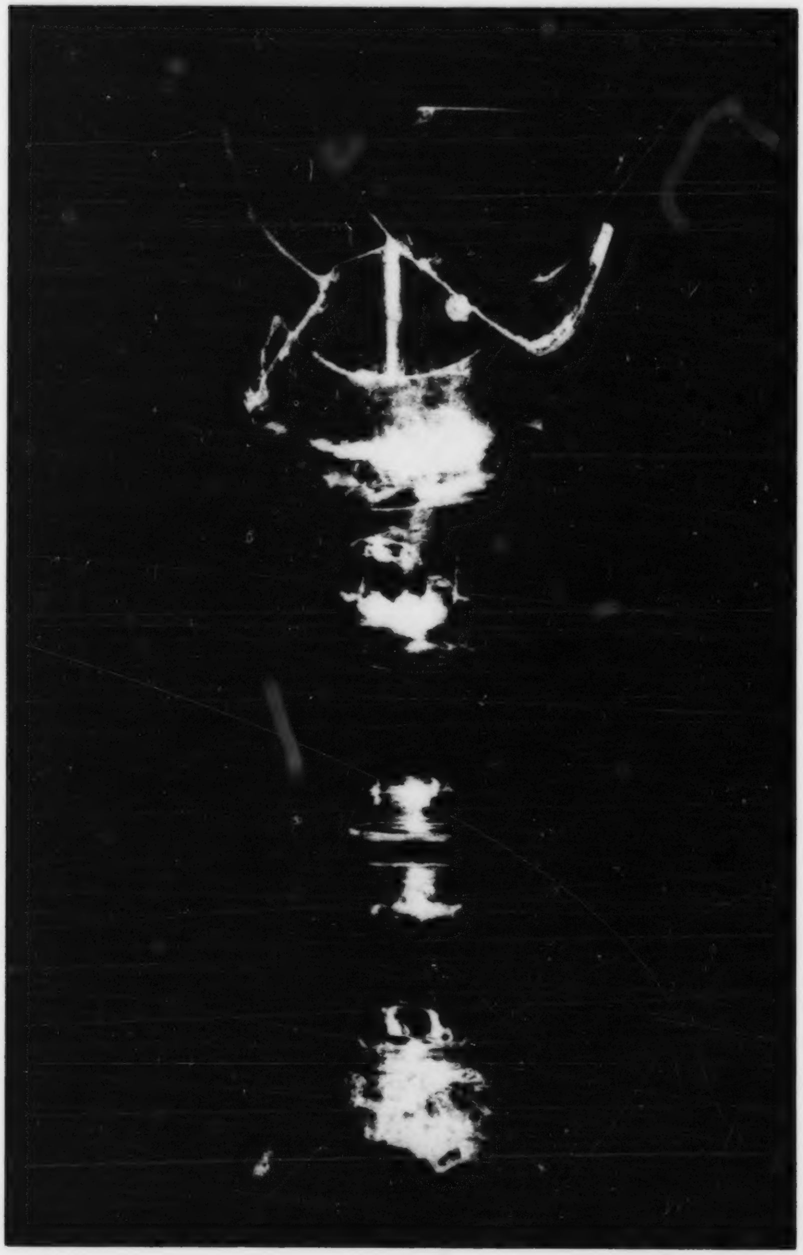

Figure 48. "Baluster" variety, Style 3. Front view (2L81D4-1). (Photo by R. Chan; RA-6427B.) Scale: life-size.

"Baluster" Variety, Style 4

Vessels: 2
Sherds: 13
Catalogue numbers: 2L80Y19-6, 2L80Y19-7
Description:
  stem - dominant ball knop (cushioned underneath) with a basal knop and a somewhat collar-like neck area at the stem-bowl juncture
  bowl - pointed round funnel with a solid base
  foot - conical with a folded rim
Decoration:
  stem - air bubble in dominant knop (in 2L80Y19-7 it extends into the basal knop)
Dimensions:
  stem height: $\bar{x}$ = 60.7 mm (58.8 mm - 62.6 mm; 2 examples)
  foot diameter: $\bar{x}$ = 80.25 mm (77.5 mm - 83.0 mm; 2 examples)
Manufacture: three part; folded foot rim.
Date: ca. 1700 to 1730
Published illustrations:
  Noël Hume 1969a: 17, Fig. 5(2)

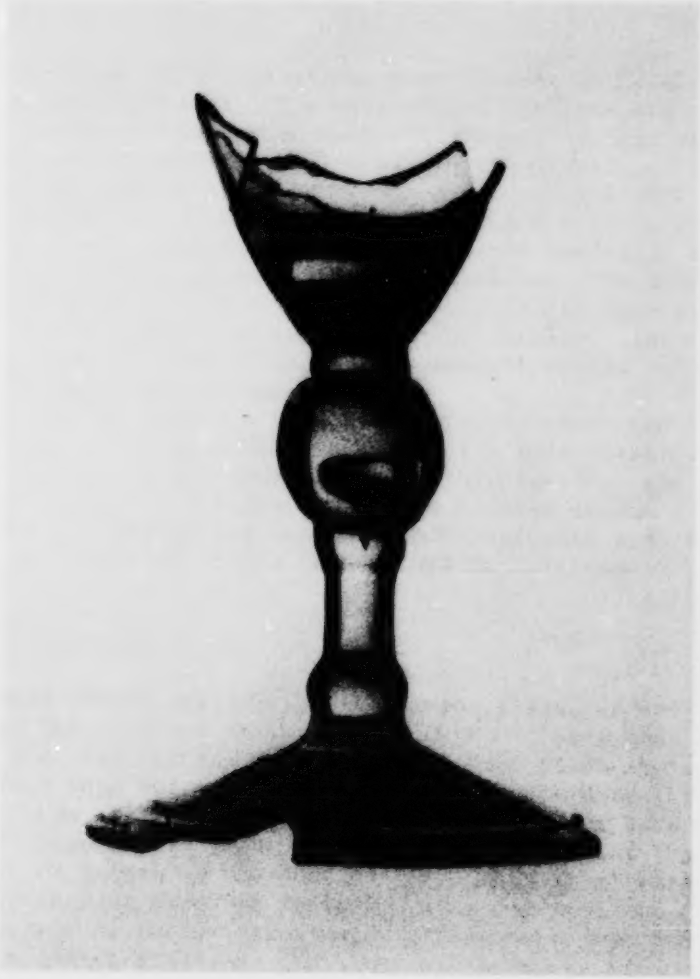

Figure 49. "Baluster" variety, Style 4. Front view (2L80Y19-6). (Photo by R. Chan; RA-6695B.) Scale: life-size.

Tumblers

There are two varieties of tumblers present in Event 59: undecorated and decorated. The undecorated tumblers are present in but one style, while the decorated ones are present in four styles: optic, pattern and contact moulded, and opaque white glass.

All of the tumblers are of French or probable French origin and date to the 18th century. They are made of a non-lead, probably potash-lime glass. The tumblers are round, or basically round, in horizontal cross-section and have tapered sides. The bases have an even glass distribution and their diameters vary little from style to style. The basal profiles are generally extremely shallow. The tumblers were in probably all cases manufactured by means of moulds and all of the pontil marks were left unfinished.

Generally the tumblers were identified by their bases but in a few cases the type of manufacture and decoration made identification possible from very small sherds. Where this has been the case, the catalogue description has dealt with the portion extant in the Event 59 assemblage and a figure has been used to illustrate a more complete example from elsewhere in the Dugas house excavations.

Undecorated Tumblers

The most common variety present is the plain, undecorated tumbler (Fig. 50). The tumblers in this group were probably made in a simple dip mould and they fit the general description given above. Of note is a light green base which has been knapped or worked so that it is now a disc-like shape (Fig. 51). The sides of the tumbler have been completely chipped away leaving an open surface across the top of the base almost as smooth as the bottom. Obviously great care was taken to reform this tumbler base but it is not clear to what end. The glass is not transparent or colourless enough for use as a lens and it seems large for a gaming piece.

Decorated Tumblers

As stated above, there are four styles of decorated tumblers: optic, pattern and contact moulded, and opaque white glass.

Optic moulding is a decorative kind of mould blown manufacture where the gather of glass is first blown into a part-size pattern mould and then removed and blown to full size in a plain dip mould. This results in the pattern being forced to the interior of the vessel while the exterior becomes smooth (Fig. 52b). Tumblers decorated in this way are the most common decorated tumbler style in Event 59. There is only one form present and this is characterized by vertical panels (Fig. 52). Optic-moulded tumblers are common on French colonial sites and the glass has quite often crizzled. None of the examples in this assemblage are crizzled.

The next style is the pattern-moulded tumbler. To manufacture this style, the gather of glass is blown into a part-size pattern mould and then removed and blown to full size, the pattern and basic shape being given to the glass by the part-size mould. Two different forms are present in Event 59, one of plain vertical panels (Fig. 53) and the other of arched and recessed vertical panels (Fig. 54). The latter is an extremely distinctive tumbler pattern and is easy to identify, even when dealing with two small body sherds as is the case in this assemblage. Like the optic-moulded tumblers, pattern-moulded tumblers are fairly common at Louisbourg.

The third style of decorated tumbler is contact moulded, that is, the gather of glass has been blown into a full-size, two-part, decorative mould and hence seam lines generally can be seen across the base of the tumbler and vertically on opposite sides of the body. Tumblers made in this way are extremely decorative, usually having figural and other motifs over the entire body area (*see*, for example, Barrelet 1953: Plate XLI, C). These vessels are generally attributed to Bernard Perrot of Orléans and dated to the end of the 17th and beginning of the 18th century (Barrelet 1953: 199-200). Tumblers of this variety are rare at Louisbourg and in this assemblage the extant portion is only a small rim sherd from which the entire pattern cannot be determined with any confidence.

The final decorated style of tumbler is made of opaque white glass. There are two forms present, one like an undecorated tumbler in shape (Fig. 55) and the other footed (Fig. 56).

The first form is represented by one restorable vessel (2L81G8-1) and a base (2L81B6-10). The restorable tumbler is decorated with mottling, that is, small, coloured bits of glass marvered into the sides of the vessel to form a design (Fig. 55a). Mottling was a fairly common form of decoration on opaque white glass in Europe during the 18th century but no published illustrations of a tumbler similar to the example in Event 59 have been found. However, Barrelet does show a salt (*salière*) decorated in like fashion (Barrelet 1953: Plate LVIII, B).

The second form of opaque white glass tumbler in Event 59 is represented by extremely fragmentary foot, body and rim sherds. This kind of vessel is made all in one piece (Fig. 56) and is composed of a folded foot and a body either hexagonal or round in horizontal cross-section with tapered sides. Tumblers of this form and with enamelled decoration are illustrated in Barrelet (1957: Fig. 23, left, and colour plate facing p. 114). In this assemblage there are two flat body and rim sherds definitely attributable to the hexagonal shape. As well, there is a curved fragment from the base of a body which may have been part of either a round or hexagonal tumbler. This sherd (2L81G8-13) has red mottling on it and may be indicative of a minimum of two-footed tumblers in the assemblage.

There are also several body and rim sherds that may be part of either of the above forms. These sherds are curved rather than flat and one example has red enamel writing on it (Fig. 57). The writing is probably French but it has not been possible to match the lettering present with any known texts on other tumblers (for example, Barrelet 1957: Fig. 23, left and centre).

Finally, there are two things of note with regard to the condition of the opaque white glass. First, both of the Form A bases exhibit short, parallel fissures along the basal resting surface (Fig. 55b). Similar fissures are present on the underside of the complete foot of Form B along the ridge from which the body extends on the exterior (Fig. 56). These fissures appear to be stress marks formed during the manufacturing process rather than wear marks. Second, in almost all of the opaque white glass sherds in this assemblage, the glass has a cased appearance in cross-section, indicative possibly of two gathers of glass. This is well illustrated in Figure 56 where the two layers of glass can be seen to be actually splitting apart on the right side.

Undecorated Tumblers, Style 1

Vessels: 7
Sherds: 35
Catalogue numbers: 2L80B22-13, 2L80D15-12, 2L80T11-23, 2L80T13-23, 2L80T13-24, 2L80X9-4, 2L80X9-29, 2L80X9-30, 2L81A7-14, 2L81F7-28, 2L81F7-31, 2L81K9-23, 2L81K9-24, 2L81M8-6
Description:
body - round in horizontal cross-section with tapered sides
basal profile - extremely shallow
Decoration: none
Dimensions:
base diameter: $\bar{x}$ = 48.8 mm (42.0 mm - 53.4 mm; 7 examples)
Manufacture: probably dip moulded
Colour: light green, colourless, pink (*see* Condition)
Condition: 2 examples are crizzled and have solarized; 2 vessels have been damaged by exposure to heat (2L80T13-24, 2L81K9-23).
Published illustrations: none located

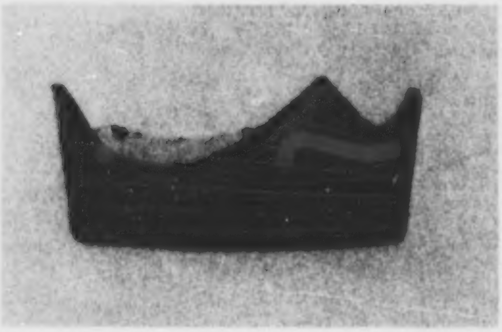

Figure 50. Undecorated tumblers, Style 1. Front view (2L80X9-4). (Photo by R. Chan; RA-7677B.) Scale: life-size.

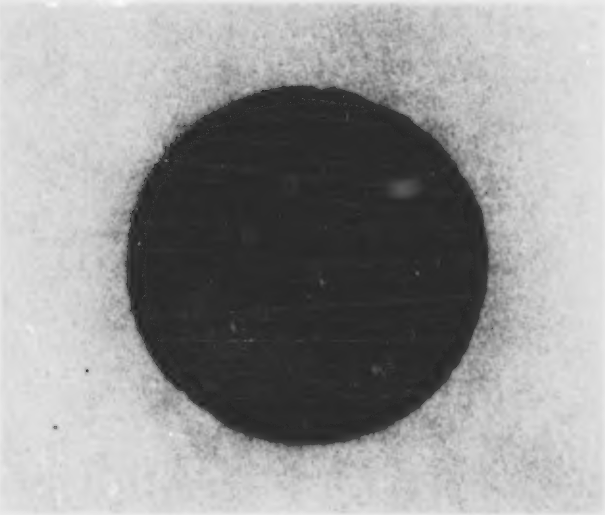

Figure 51. Undecorated tumblers, Style 1. Top view of base with sides completely chipped away (2L80X9-29). (Photo by R. Chan; RA-6425B.) Scale: life-size.

Decorated Tumblers: Optic Moulded, Form A

Vessels: 4
Sherds: 9
Catalogue numbers: 2L80A15-4, 2L80B22-12, 2L80B22-14, 2L80T11-16, 2L81G8-18
Description:
  body - round in horizontal cross-section with tapered sides
  basal profile - extremely shallow
Decoration:
  body - moulded vertical panels on the interior, ten in all
Dimensions:
  base diameter: $\bar{x}$ = 46.1 mm (44.9 mm - 48.0 mm; 3 examples)
Manufacture: optic moulded
Colour: colourless, mauve (*see* Condition)
Condition: 1 example has solarized
Published illustrations: none located

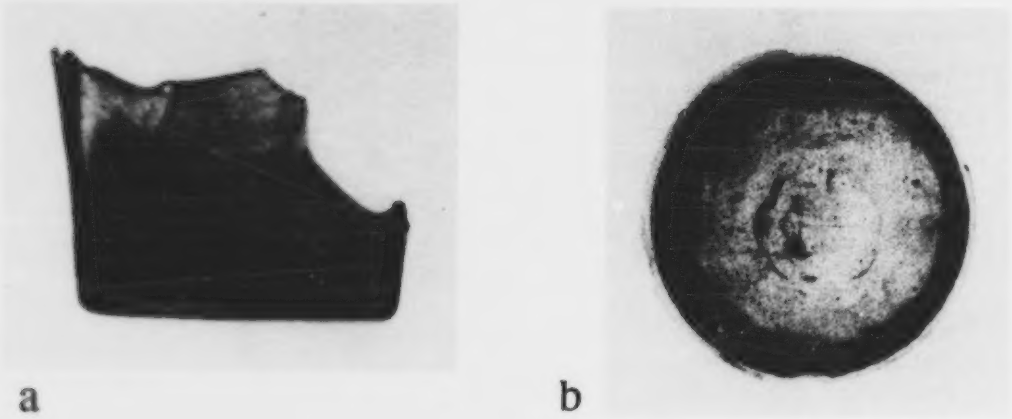

Figure 52. Decorated tumblers: optic moulded, Form A: a, front view, and b, base view showing panelling on interior (2L80B22-14). (Photos by R. Chan; RA-7675B, RA-7676B.) Scale: life-size.

Decorated Tumblers: Pattern Moulded, Form A

Vessels: 1
Sherds: 1
Catalogue numbers: 2L81A7-13
Description:
  body - round in horizontal cross-section with tapered sides
Decoration:
  body - moulded, plain, vertical panels on the exterior
Dimensions:
  base diameter: 60.0 mm
Manufacture: pattern moulded
Colour: colourless
Published illustrations: none located

Decorated Tumblers: Pattern Moulded, Form B

Vessels: 1
Sherds: 2
Catalogue number: 2L80D11-10, 2L80X9-38
Description:
  body - round in horizontal cross-section with tapered sides
Decoration:
  body - a repeating pattern of four arched and recessed, moulded vertical panels of varied heights on the exterior
Dimensions: none available
Manufacture: pattern moulded
Colour: colourless, pink (*see* Condition)
Condition: 1 sherd has solarized slightly
Published illustrations: none located

Figure 53. Decorated tumblers: pattern moulded, Form A. Front view (2L81A7-13). (Photo by R. Chan; RA-6429B.) Scale: life-size.

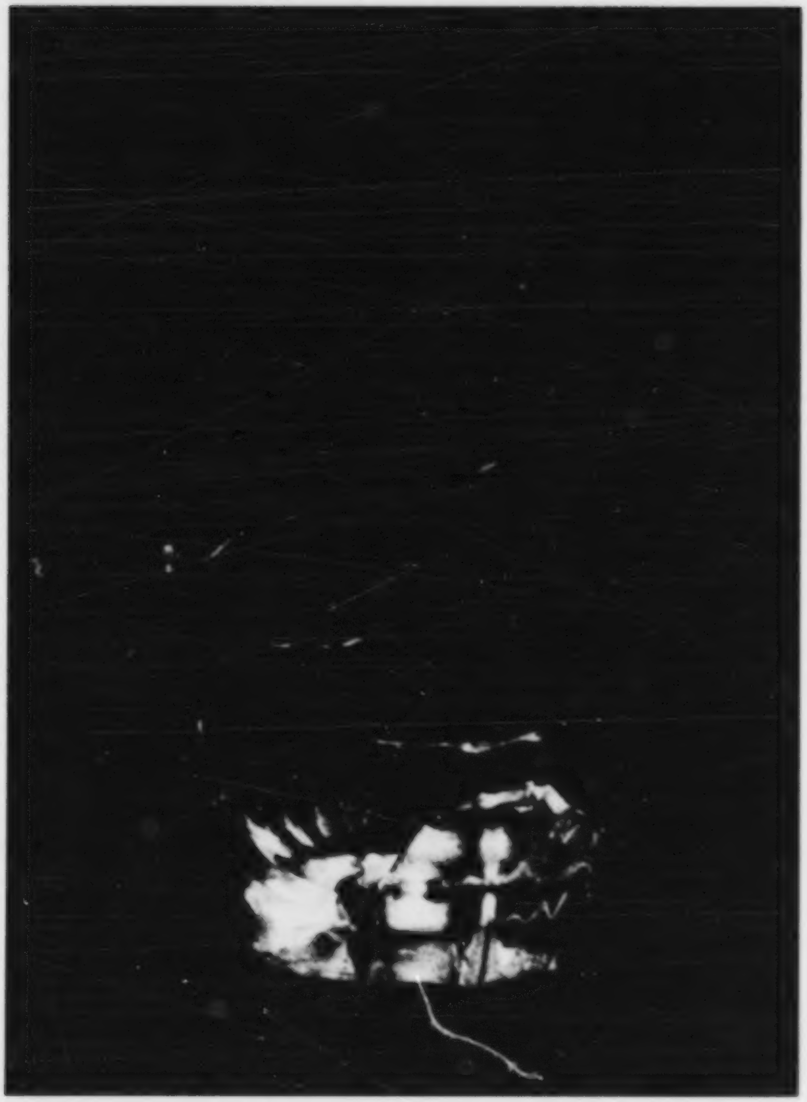

Figure 54. Decorated tumblers: pattern moulded, Form B. Front view of restorable example from another Dugas house context (2L80C17-1). (Photo by R. Chan; RA-6411B.) Scale: life-size.

Decorated Tumblers: Contact Moulded, Form A (Not illustrated)

Vessels: 1
Sherds: 1
Catalogue number: 2L81B6-8
Description:
  body - round in horizontal cross-section
Decoration:
  body - below the rim, a moulded horizontal band and below that, moulded dimpling
Dimensions: none available
Manufacture: contact moulded
Colour: colourless
Condition: crizzled
Published illustrations:
  Barrelet 1953: Plate XLI, C

Decorated Tumblers: Opaque White Glass, Form A

Vessels: 2
Sherds: 19
Catalogue numbers: 2L81B6-10, 2L81G8-1
Description:
  body - round in horizontal cross-section with tapered sides
  basal profile - shallow conical
Decoration:
  body - mottling in the form of three fairly regularly spaced swirls, made up of bits of red and blue opaque white glass marvered into the sides
Dimensions:
  rim diameter: 68.6 mm (1 example)
  base diameter: $\bar{x}$ = 45.3 mm (45.0 mm - 45.6 mm; 2 examples)
  vessel height: 65.8 mm (1 example)
Manufacture: probably dip moulded
Colour: opaque white with a bluish cast
Condition: short, parallel stress fissures on the basal resting surface; some of the mottling has fallen out of 2L81G8-1, leaving cavities in the white glass surface; the latter is somewhat corroded.
Published illustrations: none located

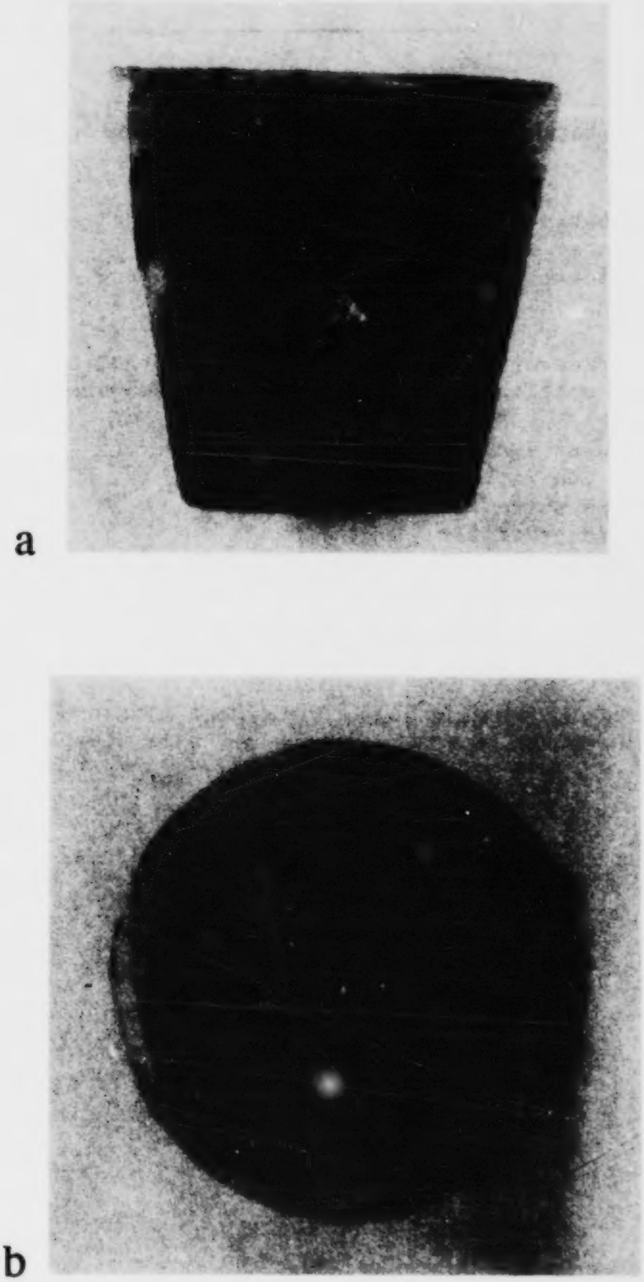

Figure 55. Decorated tumblers: opaque white glass, Form A: a, front view, and b, base view showing stress marks (2L81G8-1). (Photos by R. Chan; RA-7678B, RA-7679B.) Scale: a, life-size, and b, slightly enlarged.

Decorated Tumblers: Opaque White Glass, Form B

Vessels: 1
Sherds: 6
Catalogue numbers: 2L80X9-20, 2L81B6-9, 2L81G8-13, 2L81G8-20, 2L81K9-22
Description:
body - probably hexagonal in horizontal cross-section with tapered sides
foot - conical; folded over so that there is a double thickness of glass
Decoration:
body - a trace of red enamelling is present on one flat sherd; red mottling is present on one curved sherd (*see* text)
Dimensions: none available
Manufacture: one part; mouth blown
Colour: opaque white with a bluish cast
Published illustrations:
Barrelet 1957: Fig. 23, left, and colour plate facing p. 114

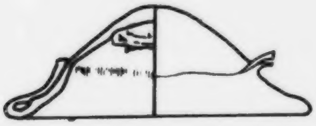

Figure 56. Decorated tumblers: opaque white glass, Form B. Cross-section and plan view of footed base from another Dugas house context (2L80H3-1). (Drawing by K. Gillies.) Scale: life-size.

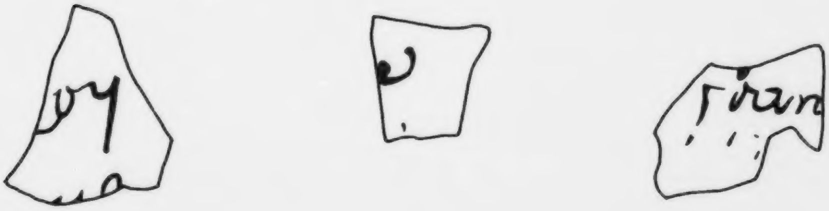

Figure 57. Decorated tumblers: opaque white glass, Form A or B. Curved body sherds with red enamel writing (2L80X9-46). (Drawing by K. Gillies.) Scale: life-size.

Dessert Glasses or Footed Tumblers

Three vessels of a distinctive footed type have been identified in Event 59 but only one of these, 2L80Y19-8, has enough body and rim sherds present to permit a reconstruction of the variety (Fig. 58). The vessels are made of a fairly heavy, colourless, potash-lime glass which has been classified a Bohemian-type crystal, most probably of French manufacture (McNally 1974).

Vessels at Louisbourg of this metal and of somewhat similar configuration and manufacture, with tapered sides, plain rims and plain or pattern moulded bodies, have been identified by McNally as footed tumblers (McNally 1974: Fig. 27). English lead glass water-glasses dating to the 18th century are described by Thorpe as being like footed tumblers (Thorpe 1969: 332) and although the examples shown by McNally and in this report differ somewhat from those illustrated by Thorpe (Thorpe 1969: Plate CIX), it is possible that the vessels served a similar function. English dessert glasses, specifically jelly glasses, also bear marked similarities to footed tumblers (Hughes 1969: 79; Buckley 1932: 521; R. Wilkinson 1968: 181) and the everted rim of 2L80Y19-8 makes that function also a possibility. Continental examples of this general type include a late 17th century jelly or dram glass from the Low Countries (Haynes 1970: Fig. 27c) and tumblers for everyday use found in the Old City of Warsaw and dating to the second and third quarters of the 18th century (Ciepiela 1975: Fig. 2). As well, a vessel of this type is illustrated in a 1763 Norwegian catalogue where the vessel is described as a "beaker on a foot" (Polak 1969: Fig. 48, No. 504). It therefore seems quite possible that the examples of this type in the Event 59 assemblage could have been used for either drinking or eating or both.

Dessert Glasses or Footed Tumblers, Variety 1

Vessels: 3
Sherds: 9
Catalogue numbers: 2L80T13-22, 2L80Y19-8, 2L80Y19-16
Description:
  body - round in horizontal cross-section with a rounded base, slightly tapered sides and an everted rim
  foot - conical
Decoration:
  body - wide, vertically moulded ribs, probably seven in all
Dimensions:
  body rim diameter: 84.0 mm (1 example)
  foot diameter: $\bar{x}$ =46.8 mm (40.6 mm - 53.0 mm; 3 examples)
  estimated vessel height: 105.0 mm (1 example)
Manufacture: two part; pattern-moulded body, applied foot, unfinished pontil mark.
Colour: colourless
Published illustrations: none located

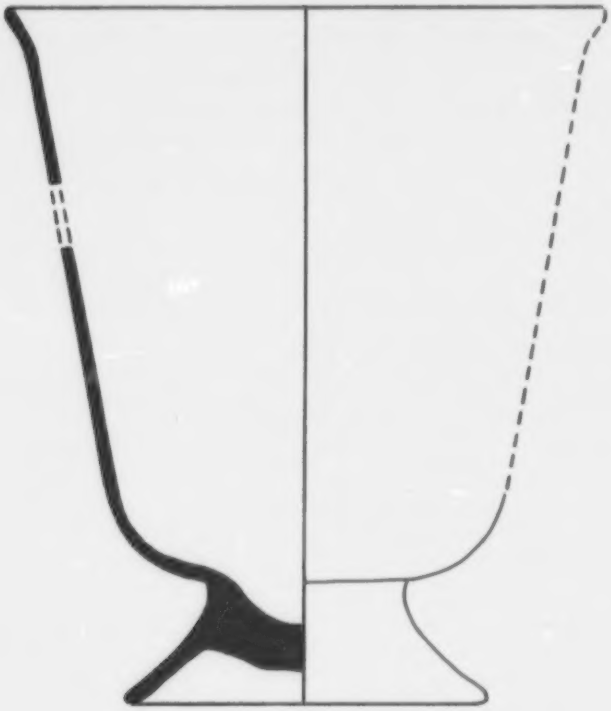

Figure 58. Dessert glasses or footed tumblers, Variety 1. Cross-section and plan view (2L80Y19-8). (Drawing by K. Gillies.) Scale: life-size.

Cups

Fragments of cups were found throughout the Dugas house excavations but only four small body sherds were actually located on the interior of the structure in Event 59. All of the sherds indicate the presence of only one variety of cup. Therefore, although the normal catalogue format has been used to describe the four Event 59 sherds on the following page, the information regarding the configuration of this variety has been gleaned from other, more complete examples. Similarly, Figure 59 is a composite drawing and somewhat hypothetical.

The cups are a very light green in colour and are probably made of a soda-lime glass. The colour, weight and general appearance of the sherds are much like those of *verre fougère*, in fact. The cups are thinly blown through the body but the handles and bases are fairly substantial. The most notable characteristic of this variety is the threading applied around the body, making the body sherds easily recognizable.

No precisely similar cups have been found in published sources. Barrelet shows Bohemian and Bohemian-type cups of the second half of the 18th century which are somewhat similar in design but have more elaborate decoration and appear to be made of colourless glass (Barrelet 1957: 116-7). In Thorpe (1969: Plate LXXX) there is an illustration of a mid-18th century lead glass cup which has threaded decoration and bears a marked resemblance to the examples from the Dugas house excavations. The latter, because of their colour and probable glass composition, are most probably of French manufacture but the variety cannot be dated at present.

Cups, Variety 1

Vessels: 1
Sherds: 4
Catalogue numbers: 2L80T11-28, 2L81D4-16, 2L81P11-4
Description:
  body - round in horizontal cross-section, very slightly barrel-shaped sides, rounded base, plain rim
  handle - single; hollow blown with the upper and lower terminals located near the body rim and base respectively
Decoration:
  body - threaded glass applied horizontally and what appears to be continuously from the base to below the rim
  handle - looped
Dimensions: none available
Manufacture: two part; probably free-blown body, hollow-blown and applied handle.
Colour: light green
Condition: threading is fragile and breaks off fairly easily
Published illustrations: none located

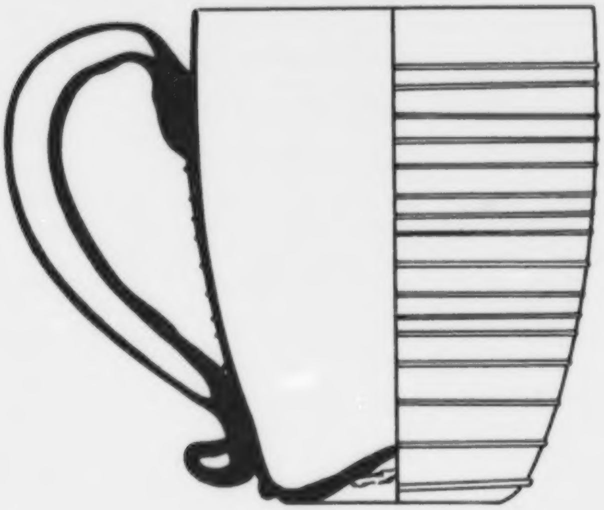

Figure 59. Cups, Variety 1. Conjectural reconstruction (cross section and plan view) based on sherds from other Dugas house contexts (2L80A9-1, 2L80P10-1, 2L80R21-1). (Drawing by K. Gillies.) Scale: life-size.

Miscellaneous Tableware of Unidentified Function

There are three sherds that because of unique qualities of shape, metal and/or manufacture have been deemed to be representative of tableware vessels for the purpose of the minimum vessel count. These vessels have not been positively identified as to function due to their fragmentary and incomplete condition.

The first of these vessels is a sherd of light green glass, 2L81F7-25 (Fig. 60), which appears to be part of a beaker made in the Germanic tradition, such as a *passglas* (for example, Baumgärtner 1977: Abb. 40). The sherd has a domed "foot" with a tapered "bowl" rising from a fairly wide base at the top of the "foot." The push-up appears to have been pointed and the pontil mark has been left unfinished. Vessels such as the above-mentioned *passglas* are of a distinctive manufacture: the bowl and foot are made of separate parisons of glass, resulting in a single thickness of glass on the bowl and foot, and a double thickness at the bowl base where the foot and bowl are joined. Figure 60 illustrates the relative thicknesses of these areas on 2L81F7-25 and the latter does appear to have been made in that manner.

The second unidentified tableware vessel is a sherd made of two different colours of glass, blue and light green (2L81G8-16; Fig. 61). The sherd appears to be the hollow neck (blue) and collar (green) portion of a *verre fougère* stemware glass, such as that in Figure 32 (Style 2, Form A). In this style of stemware, however, the collar is formed from the same piece of glass as the stem, hence the two should be the same, not different colours. No references have been found to *verre fougère* vessels made of combinations of different colours of glass but it is possible that this sherd was indeed part of a hollow blown stem form of *verre fougère*.

The third unidentified tableware vessel, 2L80D11-9 (not illustrated), is an undiagnostic sherd of lead glass and therefore of British origin. This sherd is curved and thick (the thickness varies from 3.3 mm to 5.1 mm) and it could not be part of a stemware drinking vessel. It is more likely that it was part of a larger tableware vessel such as a bowl.

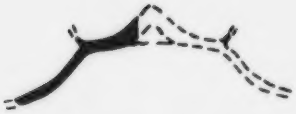

Figure 60. Miscellaneous tableware of unidentified function, 1. Cross-section (2L81F7-25). (Drawing by K. Gillies.) Scale: life-size.

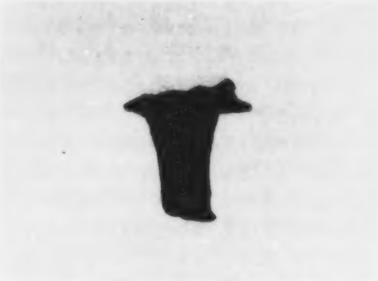

Figure 61. Miscellaneous tableware of unidentified function, 2. Front view (2L81G8-16). (Photo by R. Chan; RA-7680B.) Scale: life-size.

Undiagnostic Tableware Sherds

There are a number of miscellaneous, undiagnostic sherds which could not be identified as belonging to a specific tableware type and are not considered to be representative of vessels in the minimum vessel count. Of note among these sherds are three rim and body sherds of colourless, non-lead glass with white and red enamelling on the exterior. The only discernible pattern is a white, wavy line applied horizontally approximately 9.6 mm below the rim. These sherds are probably part of a tumbler as this was a common form of decoration on tumblers during the 18th century (for example, Barrelet 1957: Fig. 24, left). As well, there is one small sherd of colourless, non-lead glass with copper-wheel engraving on it (2L80X9-41). There are a few non-lead glass sherds with optic- and pattern-moulded decoration consisting generally of ribbing (2L80B22-19, 2L80D15-8, 2L80X9-39) and one pattern moulded ribbed sherd of demi-lead glass (2L80B22-16). The latter may be related to the corrugated conical stemware vessel, 2L81K9-17, found to have some lead content or it may have been part of a more specialized vessel such as a *broc* (McNally 1974). There is also one sherd of British lead glass which appears as though it may have been part of an annular knop from a piece of stemware. The remaining undiagnostic tableware sherds are crizzled body and rim sherds that may have been associated with tumblers or stemware.

UNDIAGNOSTIC SHERDS

There are a number of sherds in the Event 59 assemblage which could not be identified due to their fragmentary or burnt condition. The majority of these sherds are small curved fragments, of various colours, with no distinctive characteristics that would allow identification even at the most basic functional level, that is, container or tableware. As identification during cataloguing was conservative, a number of sherds have been placed in this undiagnostic group which might otherwise have been placed in the tableware class. For example, because lead glass containers were being made in Britain during the 18th century (Crellin and Scott 1972: 15-16; Noël Hume 1969a: 43), lead glass body and rim sherds which could not be positively identified as coming from stemware or tumblers were categorized as undiagnostic to allow for the possibility of containers. In retrospect, since only one lead glass container vessel was identified and it is extremely distinctive in colour, configuration and condition, the number of undiagnostic lead glass sherds is probably larger than it should be and the number of tableware lead glass sherds smaller than it should really be. By the same token, a number of colourless, non-lead glass sherds, decorated with pattern-moulded vertical ribbing, were also placed in the undiagnostic group so as not to eliminate the possiblity of pattern-moulded containers, such as flasks. It was found that there were no diagnostic fragments of such containers in the assemblage and thus these undiagnostic sherds probably belong more properly under the tableware class. In any case, however, this conservative cataloguing has not affected the vessel count and it will not be altered at this stage in the project.

Of note in the undiagnostic sherd group are three fragments of colourless, non-lead glass which have traces of enamelling on them (2L80V12-5, red; 2L81A7-19, yellow; 2L81D4-30, white). The latter sherd has writing on it which may be part of a verse as at least two lines are indicated. Unfortunately the words cannot be determined from the proportion extant but the letters "oy" can be read at the obvious end of a word. It is quite possible that this sherd came from a French tumbler such as that illustrated in Barrelet (1953: Pl. XLIX, A), but there is also nothing to say that it might not have been part of a container instead.

APPENDIX A. Lot-Layer Correlation for Event 59 (Council 1976a).

2L80A12
2L80A14
2L80A15
2L80A17
2L80A23
2L80B22
2L80B25
2L80B26
2L80B35
2L80B36
2L80C16
2L80C18
2L80C19
2L80D11
2L80D13
2L80D15
2L80D16
2L80N9
2L80N17
2L80N24
2L80N31
2L80T11
2L80T13
2L80U4
2L80V11
2L80V12
2L80X9
2L80Y14
2L80Y19
2L81A7
2L81B6
2L81D4
2L81F7
2L81G8
2L81K9
2L81L7
2L81M7
2L81M8
2L81P11
2L81R12
2L81R13

APPENDIX B. Classification System Used for the Minimum Vessel Count and the Descriptive Catalogue of the Event 59 Glassware.

Class	Type	Variety	Style	Form
Containers	beverage bottles	"wine"	French	A,B
			British	A,B, misc.
		case	1	
	flacons	narrow mouthed	1, 2, 3	
		wide mouthed	1	
	medicine vials	1, 2, 3		
	inkwells	1		
	unidentified 1, 2, 3, 4			
Tableware	stemware			
	French	*verre fougère*	spindle	A, B, C, D
			hollow blown	A, B
			1-part manu.	A, B
		corrugated conical stem	1 (plus Variation 1, 2)	
		common clear glass	1, 2	
		hollow writhen cigar stem	1	
		unidentified	1	
	British	"baluster"	1, 2, 3, 4	
	tumblers	undecorated	1, 2, 3, 4	
		decorated	optic moulded	A
			pattern "	A, B
			contact "	A
			opaque white glass	A, B
	dessert glasses or footed tum.	1		
	cups	1		
	unidentified 1, 2, 3			

APPENDIX C. Minimum Vessel Count Categories, Diagnostic Attributes, Catalogue Numbers and Figure References for the Event 59 Glassware.

Vessel Category	Diagnostic Attributes	Catalogue No.	Figure
Containers			
beverage bottles			
"wine" - French	finishes; quality and thinness of glass in 2L80X9-8	2L80B22-7	5c
		2L80X9-7	4
		2L80X9-8	6a-b
		2L80X9-19	5b
		2L81D4-2	5a
		2L81D4-13	
		2L81F7-12	
- British	finishes	2L80B22-6	10a
		2L80C16-2	10b
		2L80T11-10	9
		2L80X9-1	7a-b
		2L80X9-24	8
case	finishes	2L80X9-5	13, 14a-b
		2L80X9-17	
flacons			
narrow mouthed	finishes	2L80B22-9	
		2L80B22-11	15
		2L80T11-6	16b
		2L80X9-12	
		2L80Y19-1	19
		2L81D4-8	
		2L81F7-6	18
		2L81F7-7	
		2L81L7-8	16a
wide mouthed	finishes; colours; bore diameters	2L80B25-4	
		2L80B26-5	
		2L80X9-16	
medicine vials	finishes	2L80B22-10	21

Vessel Category	Diagnostic Attributes	Catalogue No.	Figure
		2L80T13-10	
		2L80X9-3	20
inkwells	complete	2L81K9-3	23
unidentified: 1	base; glass composition (lead)	2L80X9-28	24a-b
2	finish; style; size; colour, quality of glass	2L81M8-7	25
3	finish; style	2L81K9-2	26
4	base; colour, quality of glass	2L80T13-9	
Tableware			
stemware - French			
verre fougère			
spindle stem (3-part manu.)	stems	2L80C16-3	
		2L80V12-4	
		2L80Y19-3	30a-b
		2L80Y19-4	
		2L80Y19-5	29a-b
		2L80Y19-11	31a-b
		2L80Y19-25	
		2L80Y19-26	28a-b
		2L80Y19-27	
		2L80Y19-28	
		2L80Y19-29	
		2L80Y19-48	
hollow-blown stem (3-part manu.)	inverted balusters	2L80A17-2	
		2L80B22-17	33a-b
		2L80C16-4	
		2L80N9-3	
		2L80V11-5	34b
		2L80Y19-30	
		2L81D4-3	
		2L81D4-17	
		2L81F7-16	32
		2L81G8-15	
		2L81K9-1	34a
1-part manu.			
inv. bal. stem	stem-foot junctures	2L80Y14-12	
		2L80Y14-13	
		2L80Y14-14	
		2L80Y14-15	
		2L80Y19-9	
		2L80Y19-39	35a-b
		2L80Y19-40	

Vessel Category	Diagnostic Attributes	Catalogue No.	Figure
		2L80Y19-41	
		2L80Y19-42	
		2L80Y19-43	
		2L80Y19-44	
		2L80Y19-45	
		2L80Y19-46	
		2L81B6-5	
"cigar" stem	feet; colours	2L80Y19-2	
		2L80Y19-10	
		2L80Y19-31	36a-b
		2L80Y19-32	
		2L80Y19-33	
		2L80Y19-34	
		2L80Y19-35	
		2L80Y19-36	
		2L80Y19-37	
corrugated conical stem	shoulder-neck junctures	2L80N31-1	40
		2L80T13-21	39
		2L80X9-32	
		2L80X9-40	37
		2L80Y19-20	
		2L80Y19-21	
		2L80Y19-22	38a-b
		2L80Y19-23	
		2L81D4-19	
		2L81F7-29	
		2L81K9-17	
		2L81K9-18	41
		2L81K9-19	
common clear glass	stem styles; manufacture	2L80T13-20	42b
		2L80X9-33	43b
hollow writhen cigar stem	stem	2L80Y19-12	44
unidentified Fr. stemware	stem	2L80B25-6	45
stemware - British	bowl-stem junctures	2L80T11-17	
		2L80X9-26	
		2L80Y19-6	49
		2L80Y19-7	
		2L80Y19-17	46
		2L80Y19-18	
		2L81D4-1	48
		2L81D4-23	
tumblers			

Vessel Category	Diagnostic Attributes	Catalogue No.	Figure
undecorated	bases	2L80B22-13	
		2L80T13-23	
		2L80T13-24	
		2L80X9-4	50
		2L80X9-29	51
		2L81K9-23	
		2L81K9-24	
decorated			
optic moulded	bases	2L80A15-4	
		2L80B22-12	
		2L80B22-14	52a-b
		2L81G8-18	
pattern moulded	form of moulded decoration	2L80X9-38	
		2L81A7-13	53
contact moulded	manufacture	2L81B6-8	
opaque white glass	colour; bases; vessel form	2L81B6-10	
		2L81G8-1	55a-b
		2L81K9-22	
dessert glasses or footed tumblers	bases	2L80T13-22	
		2L80Y19-8	58
		2L80Y19-16	
cups	decoration; vessel type	2L80T11-28	
unidentified: 1	base; manufacture	2L81F7-25	60
2	colours	2L81G8-16	61
3	glass composition (lead); shape; thickness	2L80D11-9	

Table 1. Minimum Vessel Count (Glassware) for Event 59.[a]

	80A	80B	80C	80D	80N	80T	80U	80V	80X	80Y	81A	81B	81D	81F	81G	81K	81L	81M	81P	81R	Total
CONTAINERS																					
Beverage bottles																					
"wine"																					
French	-	1	-	-	-	-	-	-	3	-	-	-	2	1	-	-	-	-	-	-	7
British	-	1	1	-	-	1	-	-	2	-	-	-	-	-	-	-	-	-	-	-	5
case	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	2
total	-	(2)	(1)	-	-	(1)	-	-	(7)	-	-	-	(2)	(1)	-	-	-	-	-	-	(14)
Flacons																					
narrow mouthed	-	2	-	-	-	1	-	-	1	1	-	-	1	2	-	-	1	-	-	-	9
wide mouthed	-	2	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	3
total	-	(4)	-	-	-	(1)	-	-	(2)	(1)	-	-	(1)	(2)	-	-	(1)	-	-	-	(12)
Medicine vials	-	1	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	3
Inkwells	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1
Unidentified	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	1	-	1	-	-	4
Total	-	[7]	[1]	-	-	[4]	-	-	[11]	[1]	-	-	[3]	[3]	-	[2]	[1]	[1]	-	-	[34]
TABLEWARE																					
Stemware																					
French																					
verre fougère																					
spindle	-	-	1	-	-	-	-	1	-	10	-	-	-	-	-	-	-	-	-	-	12
hollow blown	1	1	1	-	1	-	-	1	-	1	-	-	2	1	1	1	-	-	-	-	11
1-part manufacture																					
inverted baluster	-	-	-	-	-	-	-	-	-	13	-	1	-	-	-	-	-	-	-	-	14
cigar	-	-	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-	9
total	(1)	(1)	(2)	-	(1)	-	-	(2)	-	(33)	-	(1)	(2)	(1)	(1)	(1)	-	-	-	-	(46)
corrugated conical stem	-	-	-	-	1	1	-	-	2	4	-	-	1	1	-	3	-	-	-	-	13
common clear glass	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	2
hollow writhen cigar stem	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
unidentified	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
total	(1)	(2)	(2)	-	(2)	(2)	-	(2)	(3)	(38)	-	(1)	(3)	(2)	(1)	(4)	-	-	-	-	(63)
British	-	-	-	-	-	1	-	-	1	4	-	-	2	-	-	-	-	-	-	-	8
total	(1)	(2)	(2)	-	(2)	(3)	-	(2)	(4)	(42)	-	(1)	(5)	(2)	(1)	(4)	-	-	-	-	(71)
Tumblers																					
undecorated	-	1	-	-	-	2	-	-	2	-	-	-	-	-	-	2	-	-	-	-	7
decorated																					
optic moulded	1	2	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	4
pattern moulded	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	2
contact moulded	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1
opaque white	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	1	-	-	-	-	3
total	(1)	(2)	-	-	-	-	-	-	(1)	-	(1)	(2)	-	-	(2)	(1)	-	-	-	-	(10)
total	(1)	(3)	-	-	-	(2)	-	-	(3)	-	(1)	(2)	-	-	(2)	(3)	-	-	-	-	(17)
Dessert glasses or footed tumblers	-	-	-	-	-	1	-	-	-	2	-	-	-	-	-	-	-	-	-	-	3
Cups	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Unidentified	-	-	-	1	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	3
Total	[2]	[5]	[2]	[1]	[2]	[7]	-	[2]	[7]	[46]	[1]	[3]	[5]	[3]	[4]	[7]	-	-	-	-	[95]
Total Minimum Vessel Count (Glassware) for Event 59	2	12	3	1	2	11	-	2	18	45	1	3	8	6	4	9	1	1	-	-	129

[a] Sub-totals within the Container and Tableware classes are indicated by parentheses; the totals for each class are indicated by square brackets.

Table 3. Sherd Count (Glassware) for Event 59.*

	80A	80B	80C	80D	80E	80T	80U	80V	80X	80Y	81A	81B	81D	81F	81G	81K	81L	81M	81P	81R	Total
CONTAINERS																					
Beverage bottles																					
"wine"	-	5	1	7	-	4	-	-	127	-	-	-	57	5	19	2	1	-	-	-	228
case	-	-	-	-	-	-	-	-	57	-	-	-	3	-	3	-	-	-	-	-	63
total	-	(5)	(1)	(7)	-	(4)	-		(184)	-	-	-	(60)	(5)	(22)	(2)	(1)	-	-	-	(291)
Flacons																					
narrow mouthed	-	40	-	1	-	4	-	-	23	24	-	-	3	2	1	-	2	-	-	-	100
wide mouthed	-	3	-	-	-	-	-	-	22	-	-	-	-	-	-	-	-	-	-	-	25
total	-	(43)	-	(1)	-	(4)	-	-	(45)	(24)	-	-	(3)	(2)	(1)	-	(2)	-	-	-	(125)
Medicine vials	-	2	-	-	-	4	-	-	14	-	-	-	-	1	-	-	-	-	-	-	21
Inkwells	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1
Unidentified	-	-	-	-	-	2	-	-	6	-	-	-	-	-	-	1	-	1	-	-	10
Undiagnostic																					
dark green	4	22	1	22	1	18	1	3	128	4	9	3	23	8	11	19	5	3	1	1	287
"blue-green bubbled"	5	16	1	4	-	33	2	19	105	5	7	2	40	12	10	22	-	3	-	-	286
total	(9)	(38)	(2)	(26)	(1)	(51)	(3)	(22)	(233)	(9)	(16)	(5)	(63)	(20)	(21)	(41)	(5)	(6)	(1)	(1)	(573)
Total	[9]	[88]	[3]	[34]	[1]	[65]	[3]	[22]	[482]	[33]	[16]	[5]	[126]	[28]	[44]	[45]	[8]	[7]	[1]	[1]	[1021]
TABLEWARE																					
Stemware																					
French	1	12	5	-	14	10	2	9	28	275	2	2	13	9	2	6	1	-	1	-	392
British	-	2	-	-	-	4	-	1	9	21	-	-	6	8	-	1	-	-	-	-	52
undiagnostic	3	10	-	-	-	2	-	-	-	-	2	8	1	6	-	-	-	-	-	-	32
total	(4)	(24)	(5)	-	(14)	(16)	(2)	(10)	(37)	(296)	(4)	(10)	(20)	(23)	(2)	(7)	(1)	-	(1)	-	(476)
Tumblers																					
undecorated	-	5	-	4	-	13	-	-	5	-	1	-	-	3	-	3	-	1	-	-	35
decorated	1	6	-	1	-	4	-	1	7	-	1	5	-	-	20	1	-	-	-	-	47
total	(1)	(11)	-	(5)	-	(17)	-	(1)	(12)	-	(2)	(5)	-	(3)	(20)	(4)	-	(1)	-	-	(82)
Dessert glasses or footed tumblers	-	-	-	-	-	1	-	-	-	8	-	-	-	-	-	-	-	-	-	-	9
Cups	-	-	-	-	-	2	-	-	-	-	-	-	1	-	-	-	-	-	1	-	4
Unidentified	-	-	-	1	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	3
Undiagnostic	1	10	-	4	-	14	-	3	22	29	7	1	21	9	4	5	1	1	-	-	132
Total	[6]	[45]	[5]	[10]	[14]	[50]	[2]	[14]	[71]	[333]	[13]	[16]	[42]	[36]	[27]	[16]	[2]	[2]	[2]	-	[706]
UNDIAGNOSTIC																					
Undiagnostic	4	44	1	21	2	42	11	29	53	94	18	5	40	41	6	31	2	2	3	1	450
Burnt	1	-	-	2	-	3	-	-	5	-	1	-	2	-	-	-	-	1	-	-	15
(Affected by heat)**	-	(3)	-	(9)	-	(15)	(1)	(1)	(14)	-	-	-	(4)	(2)	-	(3)	-	(1)	-	-	(53)
Total	[5]	[44]	[1]	[23]	[2]	[45]	[11]	[29]	[58]	[94]	[19]	[5]	[42]	[41]	[6]	[31]	[2]	[3]	[3]	[1]	[465]
Total Sherd Count (Glassware) for Event 59	20	177	9	67	17	160	16	65	611	460	48	26	210	105	77	92	12	12	6	2	2192

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* Sub-totals within the Container and Tableware classes are indicated by parentheses; the totals for each class are indicated by square brackets.

**These sherds are diagnostic and are included in the Container and Tableware sections of the table.

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